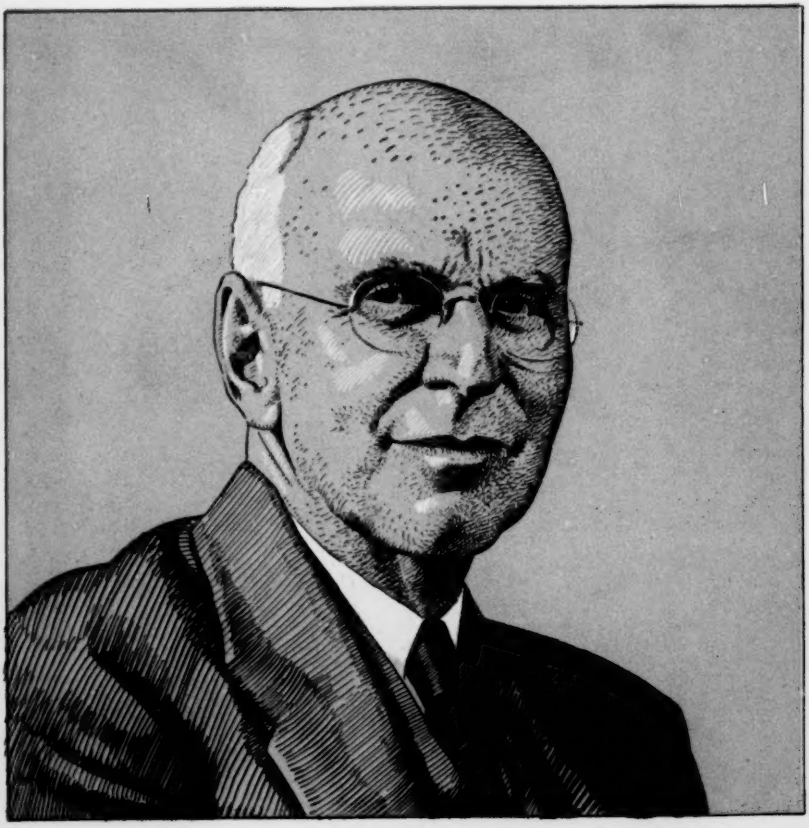
APRIL 15, 1951

MODERN MEDICINE

The Journal of Diagnosis and Treatment



Dr. Elliott P. Joslin
(see page 9)

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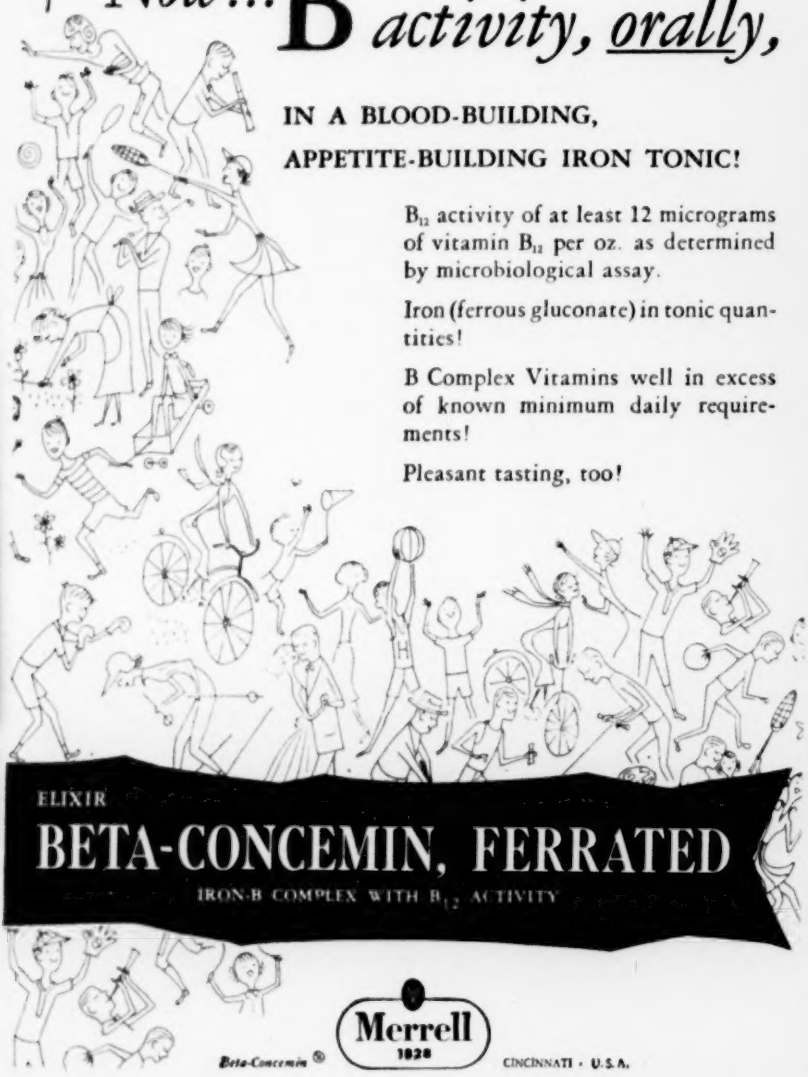

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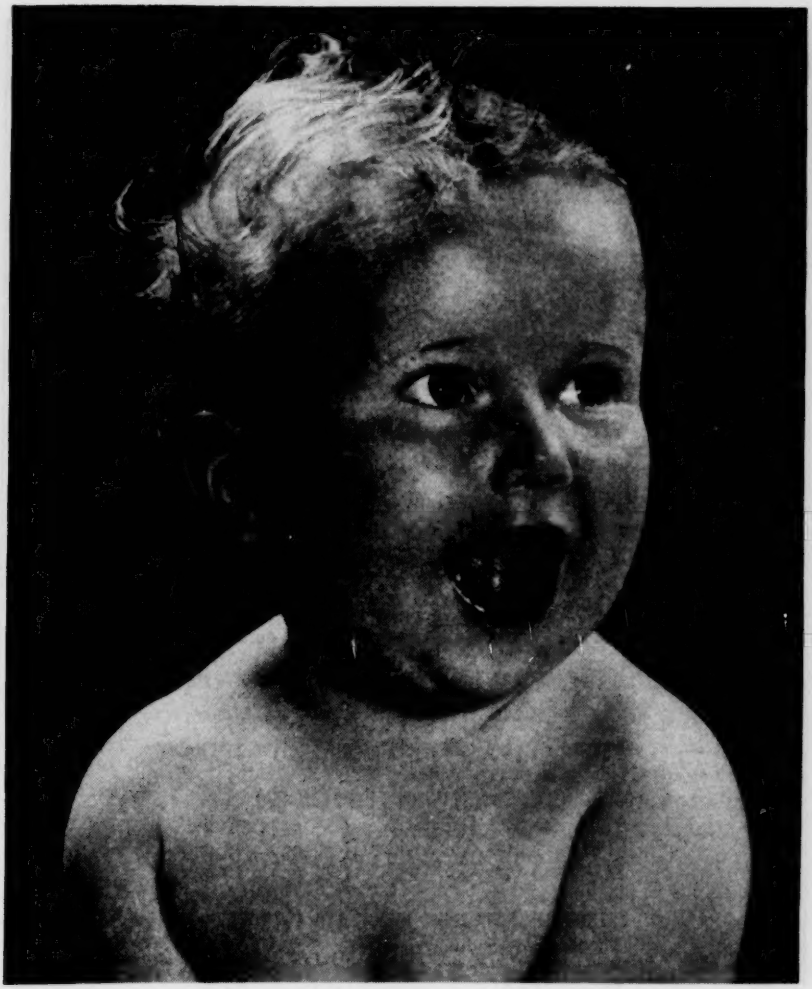

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Theobromine Sodium Acetate	(5 gr.)	0.3 Gm.
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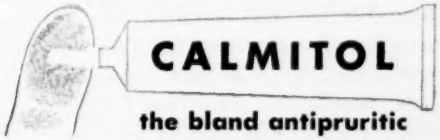

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F.

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THE JOURNAL OF DIAGNOSIS AND TREATMENT

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1. Finkler, R. S.: J. Clin. Endocrinol. *7*:293,1947
2. Lisser, H.: Northwest Med. *49*:949, 1947
3. Tyler, E. T.: J. A. M. A. *139*:9, 1949
4. Escamilla, R. F.: Am. Pract. *3*:425, 1949

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For many diabetics taking two or more daily injections of other Insulin preparations, one daily injection of NPH Insulin will often be adequate for purposes of control. This improvement is a long stride toward a more nearly normal life.

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for
April 15
1951

Modern Medicine
Vol. 19, No. 8

THE MAN ON THE COVER is Dr. Elliott P. Joslin, medical director of the George F. Baker Clinic of New England Deaconess Hospital, and Consultant to City Hospital, Boston. He has been practicing medicine in Boston since 1895. Since 1898, Dr. Joslin has been a member of the faculty of Harvard Medical School. After sixteen years as Clinical Professor of Medicine he retired from teaching, in 1937, as Professor Emeritus. His lifetime interest has been diabetes. His book, *The Treatment of Diabetes Mellitus*, first published in 1916 is a monument to his work. The eighth edition was released in 1946. Another of his books, *A Diabetic Manual*, likewise has gone through several editions. In 1943, Dr. Joslin was awarded the Distinguished Service Medal of the American Medical Association. The report on page 120, "Causes of Death in Diabetic Children," was prepared by Dr. Joslin from a paper written by him and Dr. James L. Wilson which appeared in the *British Medical Journal*.

Contents for April 15 1951

CONTINUED

Contents for April 15 1951

CONTINUED

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Formulae:

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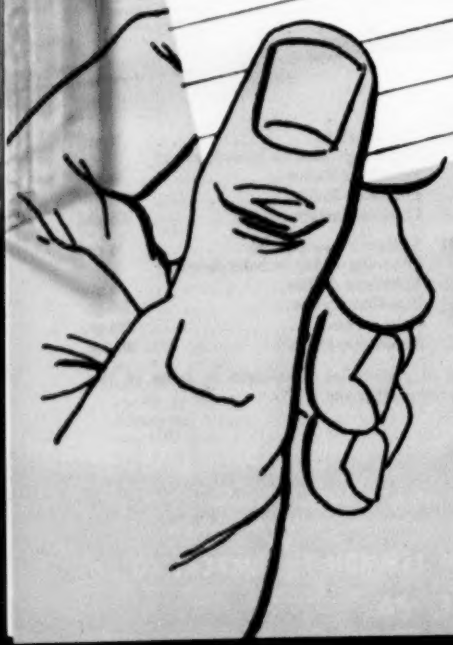

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1. McCracken, J.P. et al: Gout: Still a Forgotten Disease, J.A.M.A. *131*:367-372 (June 1) 1946.
2. Freyberg, R.H.: Practical Considerations in the Management of Arthritis, Pennsylvania M. J. *51*: 729-738 (April) 1948.

GOUTY ARTHRITIS

Arthritis which occurs acutely or subacutely and is associated with complete remission "should be considered gout until proved otherwise."[1]

In early attacks especially, states Freyberg,[2] "gouty arthritis may be difficult to differentiate from other forms of acute arthritis. In such instances the therapeutic test with colchicine should be employed."

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Each Tablet Cinbisal contains:

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One or two tablets every four hours.

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LETTER FROM THE EDITOR

Dear Reader:

Thoreau once declared that to be good is not enough; more important is to be good for something. The philosophic worth of this dictum can be argued ad libitum but it has an inescapable, practical point.

In the literature of medicine, a tremendous number of articles are based upon work that has been carefully scientific. The reasoning has been sound, and the conclusion justified. For the investigator, the work is good for something as well as good. The clinician, however, must often ask himself of what good these reports are to him.

Here in the editorial offices of ***Modern Medicine*** we make Thoreau's dictum our own. We insist that every report written for us be both good and good for something to the man in active practice. This is a major criterion when the article is selected by one of the members of our Editorial or Consultant boards. It is the goal of the science writer who prepares the original report for us, and it is uppermost in the mind of each rewriter and editor who revises the copy. Only when a report has passed this test at each stage is it finally scheduled for publication.

When a report is published in *Modern Medicine* you may be sure that several persons, each an expert in his field, are convinced that the information is good for something to you.

Selective reporting and group journalism are expensive, but make *Modern Medicine* easy for you to read and to use. The method provides you with a prompt synoptic view of the practical contributions in current medical literature.

EDITOR

new! a superior, highly palatable

sedative-antispasmodic

elixir 'ESKAPHEN B with BELLADONNA'

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1. **All** the natural alkaloids of the time-proved antispasmodic: **belladonna** . . . to combat spasm.

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3. Full therapeutic dosage of the virtually specific nutrient and restorative: **thiamine** . . . to help rectify dietary deficiencies.

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Formula: Each 5 cc. teaspoonful contains: natural belladonna alkaloids, 0.2 mg.; phenobarbital, ¼ gr. (16 mg.); thiamine, 5 mg. (nearly three times the minimum daily requirement); alcohol, 15%. Available in 6 fl. oz. bottles.

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Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Neglect of Physical Allergy

TO THE EDITORS: I was quite surprised to note in answer to a question on physical allergy (Feb. 15, 1951, p. 32) that your Consultant in Allergy stated, "the treatment of physical allergy has never been satisfactory." This statement, plus his comments on the value of antihistamines and the failure of desensitization to heat and cold, leads me to believe that he has had limited experience in the treatment of physical allergy.

The recognition and the treatment of physical allergy have been neglected because of this attitude toward the condition. In the hands of physicians who understand the condition and apply recognized specific methods of treatment, such as those outlined by Dr. W. W. Duke, Dr. Bayard Horton, and many others including myself, the results are frequently very dramatic.

As to treatment of the case mentioned by the New York M.D., I would recommend the building of tolerance to heat by gradual increased exposures to heat with the use of a radiant heat lamp or hot showers, using either a rapid ice rub or a cool shower to counteract any untoward reactions. The technic is outlined in publications by the late Dr. W. W. Duke and in several of the lectures on physical allergy that I conducted for the American College of Allergists in their annual instructional courses given at various medical colleges in the past six years.

One should remember that the use of antihistamines can at best produce only mild relief while the patient is under therapy. It is for that reason only a palliative measure. The ideal treatment of physical allergy, as in other manifestations of allergy, is to use a method which will increase the patient's tolerance so that he is finally able to cope with factors that produce his allergic reactions and thus live a normal life.

CECIL M. KOHN, M.D.

Kansas City

Liked Thorndike Article

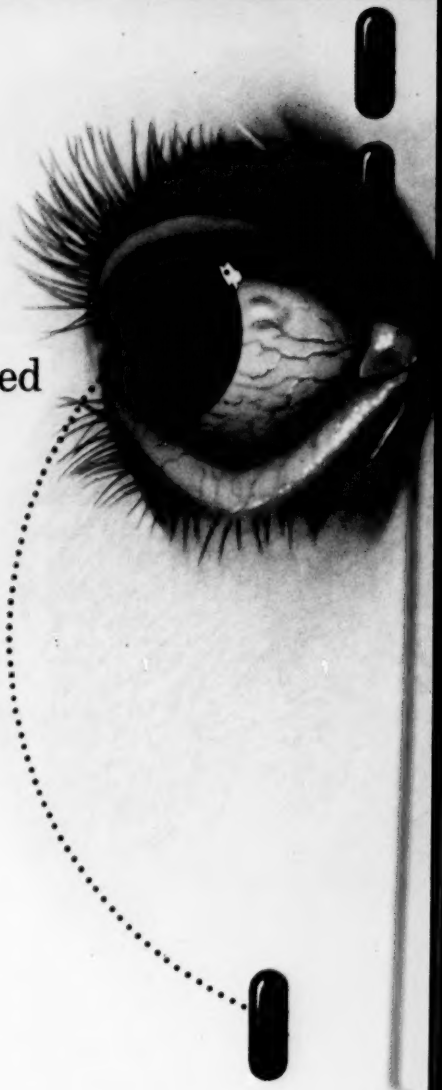
TO THE EDITORS: Will you please send me a reprint of the article "Management of Common Athletic Injuries" by Augustus Thorndike (Feb. 1, 1951, p. 88)?

I want you to know that I think *Modern Medicine* is a most excellent journal and contains very good articles, so keep it coming.

DANIEL L. HOLLIS, M.D.

Biloxi, Miss.

(Continued on page 21)



Vitamin deficiencies can rarely be diagnosed from the textbook[1]...

... or from their classical symptomatology. For example, corneal invasions may arise from a riboflavin deficiency, or a deficiency of vitamin A may be indicated. Patients suspected of having two or three deficiencies show improvement only to a certain point when given the two or three specific vitamins.[1] In such instances, multiple vitamin therapy is indicated.

THERAGRAN —Therapeutic Formula Vitamin Capsules Squibb—supplies clinically proved, truly therapeutic dosages of all the individual vitamins indicated in mixed vitamin therapy.

1. Spies, T. D., and Butt, H. R., in Duncan, G. G.: Diseases of Metabolism, ed. 2, Philadelphia, W. B. Saunders Co., 1947, pp. 485-496.

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Thiamine HCl	10 mg.
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Niacinamide	150 mg.
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Whether lesions be acute or chronic... mild or severe— for truly therapeutic dosages

specify

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A single vitamin deficiency may veil many...

Syndromes produced by lack of a single vitamin rarely exist in medicine. Spies and Butt[1] insist that even "where there are clear evidences of one deficiency there must certainly be some signs, perhaps veiled, of other specific deficiency states."

Whether lesions are acute or chronic... mild or severe...

specify

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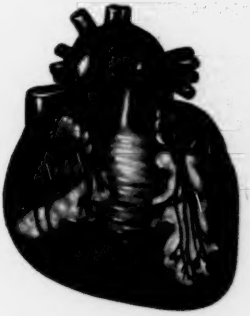
1. Spies, T. D., and Butt, H. R., in Duncan, G. G.: Diseases of Metabolism, ed. 2, Philadelphia, W. B. Saunders Co., 1947, pp. 485-496.
2. Jolliffe, N., in Jolliffe, Tisdale & Cannon: Clinical Nutrition, New York, Hoeber, 1950, pp. 634, 23-24.



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Vitamin deficiencies..

Severe
acute

acute...chronic...mild...severe

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Riboflavin	5 mg.
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Ascorbic Acid	150 mg.

for truly therapeutic dosages...

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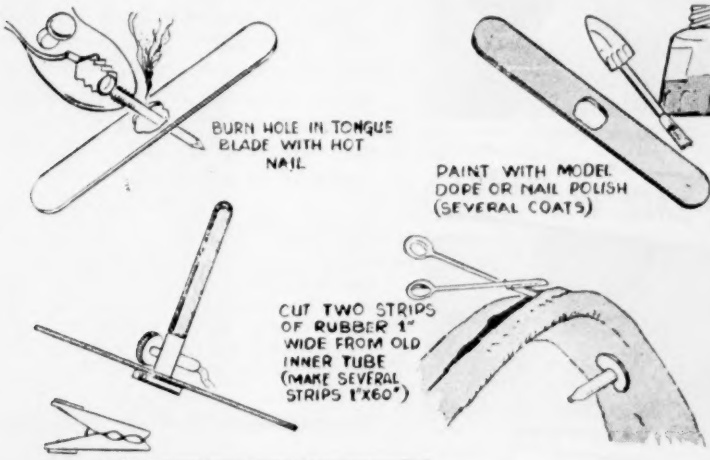
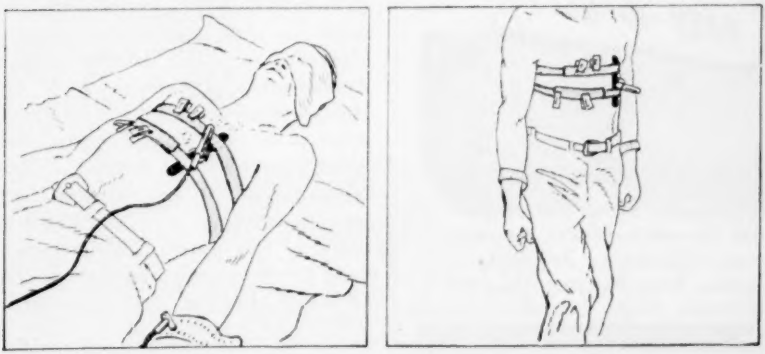
End to Exasperation

TO THE EDITORS: The problem of keeping the chest electrode in place while making an electrocardiogram is often an exasperating one. I have found that a simple holder can be made by using strips of rubber cut from an old inner tube, 4 clothespins, a tongue blade, nail polish, and some ingenuity.

A hole is burned in the tongue blade with a hot nail. Nail polish is then applied to the blade to strengthen, waterproof, and insulate it. The illustrations show how the electrode holder is made and applied.

The holder causes no reduction in vital capacity of the lung and no discomfort to the patient. It makes possible the use of exercise tests with the assurance that the chest electrodes will stay in place. No assistant is needed to hold the elec-





trodes. An additional advantage is the prevention of artifacts such as a wandering base line.

I have found this method very useful.

R. D. HAIRE, JR., M.D.
Roswell, N.M.

Doesn't Want to be Forgotten

TO THE EDITORS: I was among the first to apply for the Index of 1950, if not the first. I haven't heard from you. I don't mean to be in a hurry—this is just a reminder so that you do not forget me.

There is an awful lot in this little book of *Modern Medicine* that is extremely valuable and easily reached for reference. What a remarkable advantage for the young men of the day! And, with the index, it is really a journal to brag about.

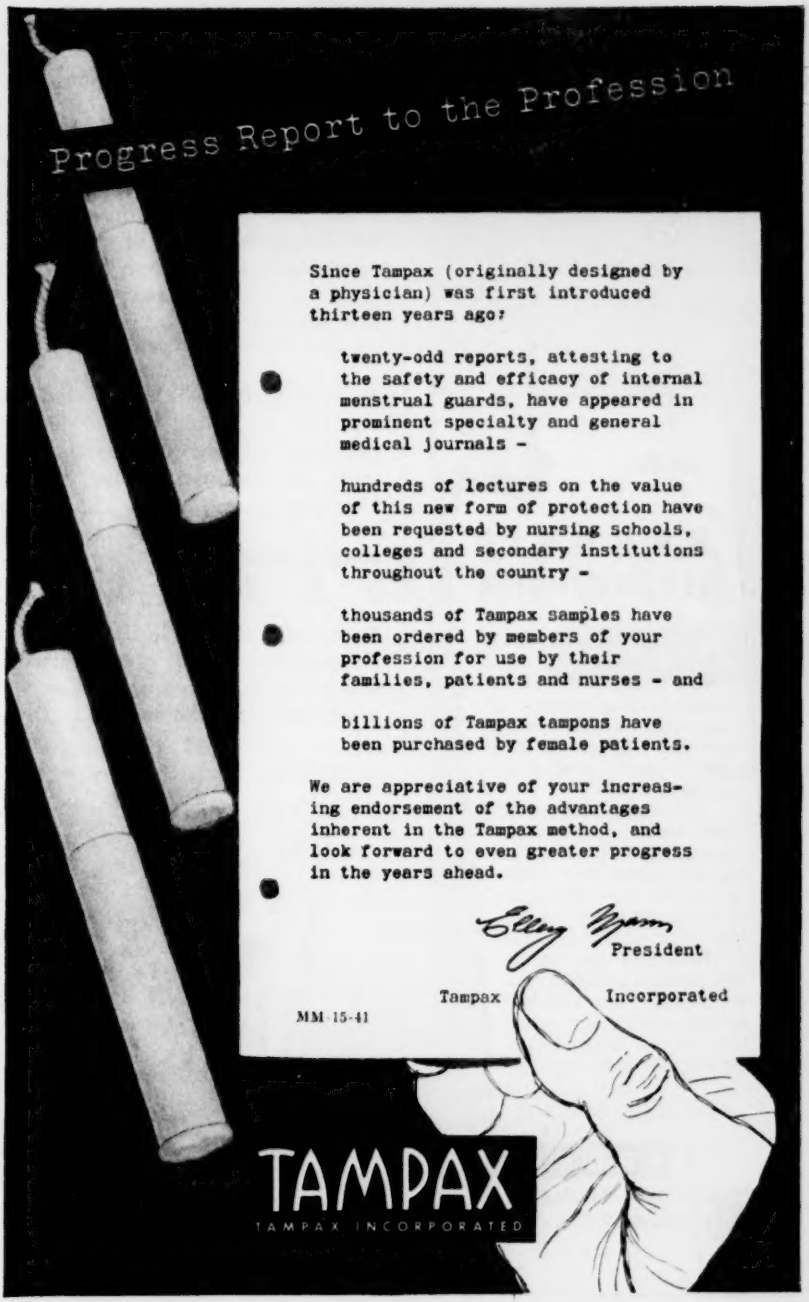
DAVID WOLIN, M.D.
Rochester, N.Y.

¶Mailing of the index was delayed until late in February. By this time every doctor who ordered a copy should have received one. If you requested a copy and have not received it, let us know, as we have a few extra copies.—Ed.

Resuscitation Technic Helpful

TO THE EDITORS: We have read with great interest your article in the February 1, 1951 number of *Modern Medicine* (p. 78), "Holger Nielsen Resuscitation Technic," by E. von Holstein-Rathlau and we would appreciate it very much if you could furnish us with 50 reprints. These reprints will be very valuable to us in our training as a medical company in the Army. At the present time we are engaged in a stepped-up training program and the reprints will be of great help.

LT. CLAUDE B. HUGHES, M.S.C.
Bay City, Mich.


Progress Report to the Profession
Since Tampax (originally designed by a physician) was first introduced thirteen years ago:
twenty-odd reports, attesting to the safety and efficacy of internal menstrual guards, have appeared in prominent specialty and general medical journals -
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We are appreciative of your increasing endorsement of the advantages inherent in the Tampax method, and look forward to even greater progress in the years ahead.
President
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► TO THE EDITORS: Please furnish 10 copies of the article describing the "Holger Nielsen Resuscitation Technic."

North American Aviation, Inc., has several medical stations in its various plants and I would like to furnish 1 for each station. I consider *Modern Medicine* to be the epitome of information for the busy physician.

HOWARD J. OLK, M.D.
Los Angeles

► TO THE EDITORS: May we have 10 reprints? We would like the fire department, police department, the mills, and factories in our town to have copies.

N. O. MONSERUD, M.D.
Cloquet, Minn.

► TO THE EDITORS: Since I have been assigned the task of giving refresher courses to a number of persons who are to teach first-aid courses in Doug-

Topical therapy... effective and safe for continued use

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- because bacterial resistance is not produced
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indicated for: superficial pyogenic infections
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pustular dermatitis
minor wound infections
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particularly valuable in mixed infections

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las, I would like about a dozen reprints.

A. K. DUNCAN, M.D.

Douglas, Ariz.

► TO THE EDITORS: I am a committeeman for the Boy Scouts of America in this district and am requesting reprints to be used in training Boy Scouts.

R. K. SHILLMAN, M.D.

Kansas City

► TO THE EDITORS: Please send me reprints to use in my first-aid classes.

ELMER M. TOWER, M.D.

Ogunquit, Me.

► TO THE EDITORS: I would greatly appreciate reprints to distribute to members of my fishing club.

WILLIAM L. WEBER, M.D.

Philadelphia

► TO THE EDITORS: I have just read your article on the Holger Nielsen resuscitation technic and would like reprints to distribute to the firehouses and first-aid workers.

THEODORE WHITE VAN DE SANDE, M.D.

Toms River, N. J.

¶More than 1,000 reprints of the resuscitation article were distributed the first week after the article appeared in *Modern Medicine*.—Ed.

ABOLISH PAIN RESTORE FUNCTION IN THE *Arthritic*

The thousands of once disabled arthritics, who have taken DARTHRONOL as part of a systemic rehabilitation program and returned to gainful and active life, are evidence of the efficacy of DARTHRONOL in:

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- DIMINISHING SOFT TISSUE SWELLING
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- PROMOTING A SENSE OF OPTIMAL WELL-BEING

EACH CAPSULE CONTAINS

Vitamin D (Irradiated Ergosterol)	50,000 U.S.P. Units
Vitamin A (Refined Fish Liver Oil)	5,000 U.S.P. Units
Vitamin C (Ascorbic Acid)	75 mg.
Vitamin B_1 (Thiamine Hydrochloride)	3 mg.
Vitamin B_2 (Riboflavin)	2 mg.
Vitamin B_6 (Pyridoxine Hydrochloride)	0.3 mg.
Niacinamide	15 mg.
Calcium Pantothenate	1 mg.
Mixed Tocopherols (Type IV)	4 mg.

Specify

Darthronol

J. B. ROERIG AND COMPANY 536 LAKE SHORE DR., CHICAGO 11, ILLINOIS

PRULOSE® COMPLEX

The *dietary approach* for Therapeutic correction of Functional Constipation.

Combining the well-known bulk-producing effect of methylcellulose with the universally accepted laxative properties of prunes, the *natural laxative food*, fortified with an isatin derivative. This activated moist bulk

1. activates the colon to normal motility
2. prevents drying out and hardness of the colon contents
3. supplies the necessary bulk to increase the volume of the stool

These actions of PRULOSE COMPLEX

1. promptly relieve the symptoms of functional constipation
2. gently stimulate peristaltic activity
3. institute a return to normal colon function

PRULOSE COMPLEX tablets are:

1. convenient, small and easily swallowed
2. economical—low dosage
3. formulated for maximum patient cooperation

ACTIVATED MOIST BULK

ADULT DOSAGE: 3 or [illegible] tablets with a full glass of water, twice daily, until normal elimination is established; then reduce to 3 tablets before retiring.

Each tablet contains:
Dehydrated Prune Concentrate (2 gr.) ..... (0.13 gm.)
Methylcellulose ..... (0.39 gm.)
Diacetylhydroxyphenylisatin (1/765 gr.) ..... (0.001 gm.)

Available in bottles of 100 tablets

Send for samples and Guidance booklets for your patients.

Name .....
Address .....
City ..... Zone .....
State .....

The HARROWER Laboratory, Inc.
930 Newark Ave., Jersey City 6, N. J.
[illegible]

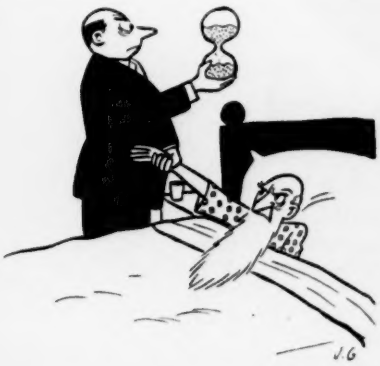
Keep the Head Down

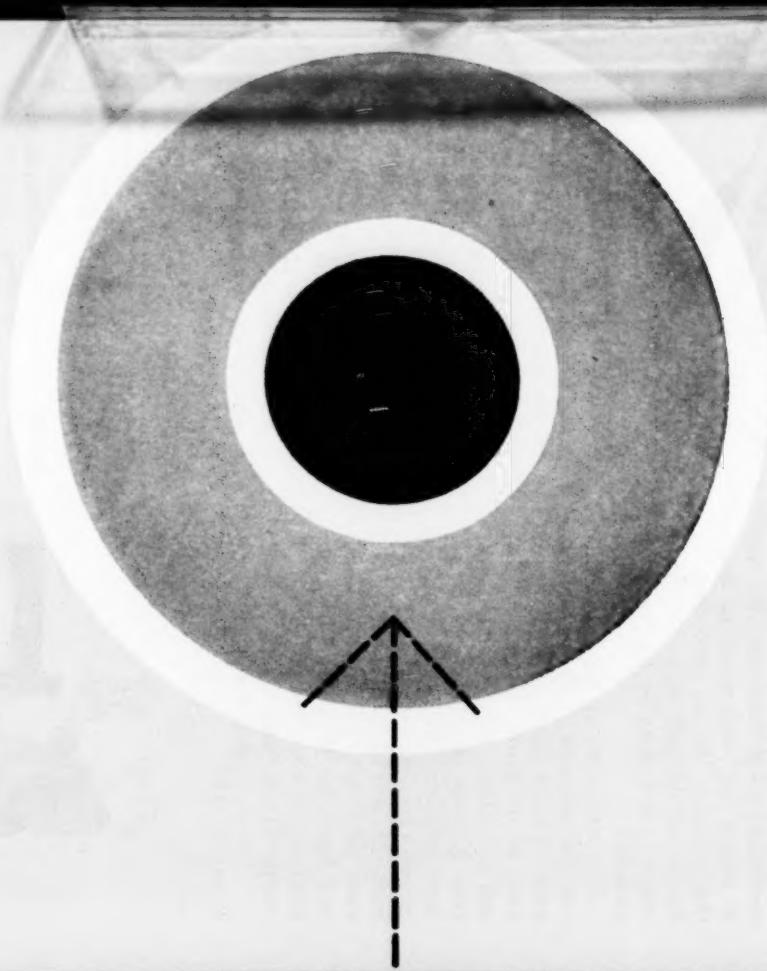
TO THE EDITORS: It seems that the boys are still kicking this enuresis thing around. In your March 1 edition I see again some comment pertaining to the alarm clock device (p. 16). Previously I read of some doctor strapping books on the back of the "mean little bedwetter." I have been interested in this discussion, which in many cases has been more mechanical than scientific, and it amuses me very much to learn that so many doctors have gone so far out of the way to try to find a remedy for a more or less common ailment.

Now let's throw all the belladonna and its alkaloids away, as well as most all other drugs, and let's throw away all the alarm clocks and books and all other gadgets and simply raise the foot of the bed so the patient lies with his head downhill, thereby keeping him off his back. Sure, he will turn around in bed some times and have his head uphill and flood the bed again, but your problem, to keep his head down, is comparatively simple.

O. T. BRAZELTON, M.D.

Princeton, Ind.





Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: Are positive agglutination tests and agglutinations as low as typhoid O 1:320, typhoid H 1:160, and paratyphoid 1:40 common two years after administration of typhoid fever therapy? The patient with these reactions has general malaise, slight anemia, and daily loose bowel movements. Except for a mild edema in the duodenum, the gastrointestinal series are negative.

M.D., Arizona

ANSWER: *By Consultant in Immunology.* Typhoid agglutinins as high as 1:320 and 1:160 are unusual two years after typhoid fever therapy or vaccination. However, such elevations have been seen occasionally from an anamnestic reaction, which is probably the explanation in this case. Although typhoid fever would have to be ruled out by serial agglutinations and bacteriologic studies, the history is much more suggestive of intestinal infestation by *Ancylostoma, Strongyloides, Giardia lamblia,* or *Amoeba.*

QUESTION: A young woman six feet tall, and thin as a rail, flows freely every 28 days for a period of 4 to 6 days. The blood does not clot. What treatment is indicated?

M.D., Illinois

ANSWER: *By Consultant in Gynecology.* Further information of value in this case should include age, pelvic findings, hemoglobin value, and date of onset of the increased bleeding. If the bleeding has been present since the onset of menses, and does not produce anemia, no treatment is necessary. Since the blood does not clot, although bleeding is said to be profuse, she should be studied for a blood dyscrasia. If the bleeding causes anemia and blood studies reveal no dyscrasia a diagnostic dilatation and curettage is indicated to determine intrauterine pathology. If none is found, estrogen may be given premenstrually for its hemostatic effect. A bleeding tendency when found should be treated according to its etiology.

QUESTION: An otherwise healthy 35-year-old married man began to lose his hair about four months ago. Since then all the hair on his body has fallen out; the nails on hands and feet have atrophied and most of them have fallen out. What can be done for this condition?

M.D., California

ANSWER: *By Consultant in Dermatology.* The assumption is that loss of hair in this case began as alopecia areata, then progressed through alopecia totalis to alopecia universalis. Shedding of the nails has been

When the diagnosis is Cystitis

First:

consider

to establish and maintain urinary antisepsis...

Four properties, in particular, make MANDELAMINE* a drug of choice whenever a diagnosis of urinary-tract infection has been made. MANDELAMINE has a wide therapeutic range, it retains its potency (even against organisms which have become resistant to other drugs), and it is relatively safe and simple to use.

Never are such properties more desirable than in the treatment of cystitis. It is therefore not surprising to find MANDELAMINE used widely, and with excellent results, in this disease (*cf.* Lowsley, O. S., and Kirwin, T. J.: Clinical Urology. Baltimore, The Williams and Wilkins Company, 1944; vol. 2, p. 1178).

MANDELAMINE is also indicated in pyelitis, prostatitis, nonspecific urethritis, and infections associated with urinary calculi or neurogenic bladder, as well as for pre- and postoperative prophylaxis in urologic surgery.

MANDELAMINE is available in bottles of 120, 500, and 1,000 enteric-coated tablets, through all prescription pharmacies. Literature and samples on request.

NEPERA CHEMICAL CO., INC.
Pharmaceutical Manufacturers
NEPERA PARK, YONKERS 2, N. Y.

*MANDELAMINE is the registered trademark of Nepera Chemical Co., Inc., for its brand of methenamine mandelate.

reported occasionally in association with alopecia areata, but such association, even if more than coincidental, is not enlightening since the cause of alopecia areata is not known.

Numerous infectious and inflammatory disorders could be considered if inflammatory changes in the nail bed or plate had occurred, but assuming that no previous disorder of the hair or nails existed, the possibility of an epidermal dystrophy seems unlikely. Similar consequences have followed febrile diseases. Without more detailed dermatologic examination and description, therapy cannot be suggested in this most unusual case. Probably no cause will be found, but recovery of hair growth is possible.

QUESTION: If the uterus is perforated during curettage, severing the uterine artery on the right side, is hysterectomy necessary, or can the vessels be tied off and still insure adequate blood supply to the uterus? What vessels would it be necessary to ligate? Would pregnancy make a difference?

M.D., Michigan

ANSWER: *By Consultant in Gynecology.* If isolation of the uterine artery and ligation are possible after severance, the uterus can be preserved since this region has rich collateral circulation. Usually, however, hysterectomy would be necessary since the formation of a broad ligament hematoma would preclude isolation of the vessel. Such hematoma formation would be more likely in a pregnant uterus. If no signs of hemorrhage occur after perforation, and if the operator is sure that no trauma has resulted to the bowel and that intrauterine infection is absent, expectant treatment without laparotomy may be followed.

why write 2....when 1 will do?

For prescriptions — all pharmacies stock 2 oz. jars; for dispensing purposes, 1 lb. jars available through your surgical supply dealer.

Now, all in one preparation, HISTAR brings you a stable, balanced combination of a proven antihistaminic and tar extract for many allergic skin disorders.

HISTAR combines pyrilamine maleate 2% (formerly called pyranisamine maleate) with special process extract of coal tar 5% (Tarbonis brand) in a water-miscible, hydrophilic cream base, clean and non-staining in use.

Months of pharmaceutical research assure a completely stable emulsion. The antihistamine works to relieve the itching, swelling and burning that generally accompany many allergic dermatologic disorders, while the special process extract of tar treats the condition itself. It is especially indicated in neurodermatitis, atopic dermatitis, urticaria, the allergic rashes, etc.

No longer need you write two prescriptions. HISTAR's synergistic action provides the complete cycle of therapy in one easy to use clinically proven product. Your patient will appreciate its simplicity of application.

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Please send literature and clinical sample of HISTAR.

Name _____ M.D.

Address _____

City _____ Zone _____ State _____

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: A surgeon was sued for alleged neglect to place and tie a ligature properly in removing a patient's right tube and ovary and give proper postoperative care. [1] Could the doctor's neglect be established without medical testimony? [2] Was his testimony on cross-examination binding on plaintiff, if credible and not rebutted by other evidence? [3] Was testimony of a member of the patient's family that the doctor admitted that he might have "skipped some vein" or "cut too deep," and so forth, sufficient to prove negligence? [4] If a hospital intern or nurse was negligent in postoperative care was the surgeon liable on that account?

COURT'S ANSWERS: [1] No. [2] Yes. [3] No. [4] No.

The Pennsylvania Supreme Court upheld dismissal of this suit brought to charge defendant with responsibility for death of the patient.

The evidence showed that when the surgeon opened the patient's abdomen he used one fixation suture ligature instead of the customary two, because of conditions that he found. When the operation was completed "the ligature was apparently doing its job" and the area was apparently dry at last inspection. Two hours later internal hemorrhage was manifested. Being engaged in another operation, the surgeon sent an assistant and arranged for a second operation, in the meantime ordering administration of blood plasma and proper fluids intravenously.

During the second operation, the ligature was found to have slipped or become detached. Two ligatures were placed over the dissected vessel and the abdomen was closed. Shortly afterward the patient seemed to improve; two hours later pulmonary trouble developed and, despite defendant's efforts, the patient died in thirty minutes.

There was no testimony about the cause of the pulmonary manifestations other than defendant's testimony that there were three possibilities: [1] a blood clot, [2] excessive intravascular fluid, or [3] failing terminal circulation from strain on the heart. The court decided that this testimony disclosed no negligence.

As to the claim of neglect by the intern or nurse, the court said that there was no supporting evidence, but that, even if there had been, the defendant surgeon would not have been liable (75 Atl. 2d 535).

PROBLEM: When a member of the armed forces is treated in a government hospital incident to service, can he enforce a claim against the government under the federal Tort Claims Act for malpractice by the doctors treating him?

COURT'S ANSWER: No.

for the life that begins at forty

potent protection against
the combined threats of
arteriosclerosis and capillary fragility

SCHENLEY LABORATORIES, INC.
350 FIFTH AVENUE • NEW YORK 1

The average daily dose (6 tablets) provides:			
Choline	1 Gm.	Pyridoxine HCl	4 mg.
Inositol	1 Gm.	Rutin	150 mg.
dl-Methionine	500 mg.	Ascorbic Acid	75 mg.
SUPPLIED in bottles containing 100 tablets.			

SEDAMYL

TRADEMARK

[ACETYLBROMDIETHYLACETYLCARBAMID SCHENLEY]

in anxiety states

SEDAMYL provides ideal low-level daytime sedation, without recourse to barbiturates. Under its gentle, calmative effect, patients feel they are having one of their "good" days.

SUPPLIED: Tablets containing 0.26 Gm. (4 gr.); tubes of 20, bottles of 100.

SCHENLEY LABORATORIES, INC.
LAWRENCEBURG, INDIANA

The U.S. Supreme Court, in an opinion rendered in December 1950, has now set at rest a point on which the lower federal courts have disagreed.

Of the 2 surgery cases considered by the Supreme Court, one involved a claim by a soldier because an Army towel was left in his stomach after abdominal surgery, allegedly through an Army surgeon's neglect. The other case involved death of an Army officer while undergoing surgery and treatment. In the first case, the U.S. Court of Appeals, Fourth Circuit, decided that the Tort Claims Act did not apply and that the claim must, therefore, be dismissed. In the other case, the Court of Appeals, Tenth Circuit, took a contrary view and decided that the officer's widow's claim was valid.

The Supreme Court, declaring nonliability, interprets the Claims Act as being intended to render the government liable only for such injuries as would render a private individual or private corporation liable—and not to apply to such peculiar relationship as exists between the government and the armed forces.

The court said that the interpretation was supported by the fact that the government has made liberal provisions through pensions and the Veterans Administration and otherwise to fit such cases. In the first case, the soldier had already received $3,645.50 and prospectively would receive $31,947 more under life expectancy. In the second case, the widow would receive in all more than $22,000, whereas, under Illinois law, the maximum would have been $15,000 for death of a civilian caused by an individual defendant (71 S. Ct. 153).

they deserve the best..

Implicit in a happy healthy childhood is maximal nutrition—and one of the essential dietetic guideposts to vigorous adulthood is adequate vitamin C[1,2,3] (¼-4 oz. for infants up to 1 year;[10,11] 4-8 oz. for older children).[4] Fortunately, most every youngster likes the taste of Florida orange juice and the "lift" its easily assimilable fruit sugars* provide.[6] It is well-tolerated and virtually non-allergenic.[3] And, under modern techniques of processing and storage—it is possible for citrus fruits and juices (whether fresh, canned or frozen) to *retain their ascorbic acid content,*[5,6] *and their pleasing flavor,*[7] *in very high degree and over long periods.*

FLORIDA CITRUS COMMISSION • LAKELAND, FLORIDA

Citrus fruits—among the richest known sources of Vitamin C—also contain vitamins A and B, readily assimilable natural fruit sugars, and other factors, such as iron, calcium, citrates and citric acid.

. . . plenty of citrus fruit

References

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FLORIDA

Oranges • Grapefruit

Tangerines

Washington Letter

Report Provides Factual Basis for Health Program Debate

The special Senate study of voluntary health insurance plans, almost half a year in the making, now is available to the public. Those who expect the report to prove that national health insurance, i.e., the Truman-Ewing program, is the only answer almost certainly will be disappointed. But so, too, will be the few who maintain that voluntary health insurance plans are not in need of a major overhauling.

The report is not the final answer to anything. It is, however, the best collection of factual information on health insurance plans that could be compiled in a limited period of time.

"I can't decide whether to have their tonsils out or not. I wish there were a third choice."

The Senate Labor and Welfare Committee, at the instigation of Chairman Elbert Thomas (D., Utah) and of Sen. James E. Murray (D., Mont.), decided on the investigation more than a year ago. At that time, as now, legislation for compulsory health insurance was bogged down in both the houses. Extensive, and often rancorous, hearings had shown a compromise to be impossible. The two sides were advancing confusing combinations of facts, half-facts, and rumors. So, an investigation was decided upon to make information rather than misinfor-

(Continued on page 50)

a report of a revolutionary new development

in the management of congestive heart failure

Smith, Kline & French Laboratories presents:

RESODEC

Trademark

for sodium control

'Resodec' simplifies and ensures salt restriction by removing sodium—not from the dinner plate, but from the contents of the intestinal tract.

Why sodium restriction is so important in congestive heart failure

An outstanding characteristic of the patient with congestive heart failure is that he retains excessive amounts of sodium. And, to the extent that he retains excess sodium, he will accumulate excess fluid. Ten grams of salt retained will produce the accumulation of about a quart of water.

Now, the physician is entirely familiar with the complications caused by this excess fluid, which manifests itself as edema. Greater demands are made on an already failing heart. The renal blood flow and glomerular filtration rate decrease . . . causing an increased degree of sodium retention. This, in turn, leads to even more fluid accumulation and a renewal of the morbid cycle.

This is why it is vitally important (1) to restrict sodium, and thus (2) to prevent or arrest the retention of excess water.

The "low-salt" diet has always been difficult

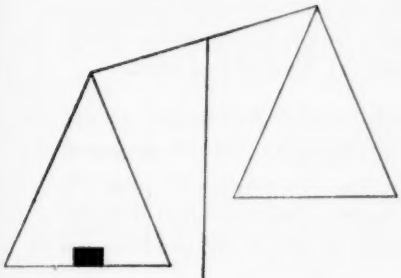
The "low-salt" diet has been advocated by leading specialists in congestive heart failure—primarily because, until recently, it has been the only direct method for the control of sodium.

The difficulties of this regimen, however, are many. The diet is almost intolerable, requires the preparation and expense of separate meals, and prevents the patient from dining out. **Finally, even after undergoing this ordeal, few patients actually attain the low sodium level that the regimen is intended to achieve.**

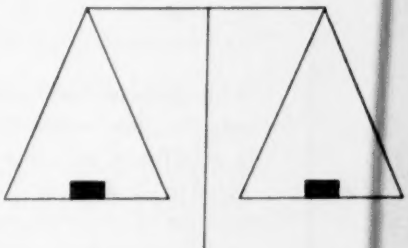
Resodec removes sodium . . .

At last—in Resodec—S.K.F. Laboratories has developed a new therapy which gives the physician a positive means of achieving sodium control—with virtually no danger of sodium depletion. This remarkable substance has the ability to remove excess sodium from the contents of the intestinal tract and to carry it out of the body in the feces. This removal of sodium permits the kidneys to excrete the excess fluid. Thus, the edema is controlled, the weight declines and the load on the heart is markedly reduced.

Resodec does not produce any significant physiological change whatsoever, except for the removal of excess sodium.



Sodium imbalance causes edema



'Resodec' restores sodium balance

(Continued on next page)

(Continued from preceding page)

. . . without the danger of potassium depletion

Moreover—and this is highly important—Resodec does not interfere with the normal metabolism of potassium. Its prolonged use does not endanger electrolyte balance.

Resodec Offers the Patient and Physician 2 Outstanding Advantages:

1. Resodec assures adequate sodium control.
2. Resodec frequently allows greater dietary freedom,
   . . . thus encouraging patient cooperation
   . . . and lessening the danger of protein deficiency.

How Resodec Is Synthesized

Resodec is one of a class of substances known as cation exchange resins. The class of resins to which Resodec belongs is entirely distinct from the "anion exchange resins". These latter, which attract negatively charged ions (anions), have found a completely different medical use, i.e., in the treatment of peptic ulcer. In the synthesis of Resodec, two important constituents are added to each 15 Gm. (single dose) of the basic resin: (1) Potassium ions (20 mEq.), and (2) Ammonium ions.

Why potassium is added to the resin. Potassium is the only element—other than sodium, of course—that is removed in significant amounts by the resin. The potassium ions are added to the resin to compensate for the potassium that Resodec removes. Thus, the possibility that Resodec will produce potassium depletion is eliminated.

Why ammonium is added to the resin. The ammonium that is added to the resin serves two purposes:

1. The ammonium form of the resin provides maximum palatability.

2. The ammonium ions—when they are released—combine with chloride ions to form ammonium chloride, a mild diuretic.

What Resodec is

Resodec is a virtually inert and completely non-absorbable substance. It is a refined, white, easily pouring powder—odorless, tasteless, and of a pleasant consistency.

With Resodec there is no evidence of toxicity

Acute and chronic toxicity studies on Resodec have been negative.

Studies of stools of Resodec-fed animals showed that Resodec does not interfere with the absorption of essential nutrients and minerals. Hemoglobin, red blood count, hematocrit and white cell count were entirely normal.

How Resodec Works

The basic action of Resodec can be most simply explained as two separate chemical exchanges:

1. In the acid medium of the stomach, Resodec releases the potassium and ammonium ions that have been bound to it.

The potassium ions compensate for the potassium that the resin will remove when it reaches the intestinal tract. The ammonium ions combine with chloride ions to form ammonium chloride, a mild diuretic.

In exchange for the potassium and ammonium ions which have been released, the resin takes on some hydrogen ions.

2. In the alkaline medium of the lower small intestine, a second exchange occurs. The resin attracts and binds to itself sodium ions (and also some potassium ions). In exchange for these sodium ions, the resin releases the hydrogen ions that it picked up in the stomach.

The sodium that is bound by the resin is "carried" out of the body in the feces.

In short, Resodec removes excess sodium without producing any other significant physiological change. Therefore, the net result is a low sodium effect.

(Continued on next page)

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The chronic toxicity studies are of special interest because Resodec is, in most cases, a long term medication. These chronic toxicity studies—where Resodec was used in animals over a long period of time—showed no pathology suggestive of toxicity.

Indications

Resodec is indicated wherever a "salt-free" or low salt diet is required in the management of congestive heart failure and cirrhosis.

Contraindications

The use of Resodec should be limited to the indications listed above. Its use is contraindicated in the presence of definite renal insufficiency, glomerulonephritis, oliguria and anuria.

Therapeutic effect

In the majority of cases, if the patient uses Resodec as directed, omits table salt, and eliminates excessively salty foods such as bacon—

(1) his edema will be controlled,
(2) his weight will decline,
(3) and the load on his heart will be markedly reduced.

Quantitatively, Resodec produces the approximate effect of halving the patient's salt intake. The following figures provide a general guide:

Salt intake (per day)	Resodec initially will remove
7-12 Gm. (mild case—normal diet)	3-4 Gm.
3-6 Gm. (moderate case—moderate restriction)	1½-3 Gm. (50%)
1-2 Gm. (severe case—drastic restriction)	1 Gm., or less

Dosage and Administration

The daily dosage of Resodec is 1 packet (15 Gm.) three times daily, at mealtime. The therapeutic effect should be regulated by varying the dietary intake of sodium—**not** the dosage of

Resodec. The proper degree of dietary restriction may be determined by observing the response of the patient, just as with the "salt-free" diet. (See **Diet** section, below.)

Resodec may be taken with fruit juice, milk or water, or in any other way that is convenient for the patient. Because individual tastes vary so widely, it is desirable to encourage the patient to experiment with different ways of taking Resodec.

Diuretics

Obviously, in the markedly edematous patient, even with Resodec therapy, mercurials or other diuretics are sometimes required to hasten the return to normal fluid balance.

As the edema disappears, however, Resodec becomes the major therapy. It helps **maintain** the normal fluid balance by removing sodium—just as the "low-salt" diet is intended to do. In all but the most severe cases, use of Resodec should eventually diminish the need for diuretics.

Diet

In most cases, Resodec does not eliminate the necessity for some dietary restriction of salt.

The majority of patients using Resodec, however, will be satisfactorily maintained on normal household cooking if they merely eliminate salt at the table and omit excessively salty foods such as bacon.

In more advanced cases, additional dietary restriction of sodium will probably be required, i.e., (1) no salt added in cooking and (2) careful selection of low sodium foods.

The precise degree of dietary restriction required with Resodec may be determined by observing the response of each patient—just as with the "salt-free" diet. **But—whatever the degree of dietary restriction—it will be far more therapeutically effective in conjunction with Resodec therapy.**

How to write for Resodec

When prescribing Resodec, be sure to write for **1 carton.** Each carton contains one week's supply—21 single dose (15 Gm.) packets. **Complete directions for administration appear on each packet.**

mation the basis for further debates.

Heading the staff work on the report has been Dr. Dean A. Clark, director of Massachusetts General Hospital, who has, as far as humanly possible, kept the search nonpartisan and objective.

The special committee was instructed to survey state and local public health services as well as voluntary insurance. Because of difficulties in reaching the thousands of governmental units engaged in providing some type of health service, the report skims over this secondary assignment, but recommends that another attempt be made to learn these facts. Until the extent and type of medical services provided by state and local governments are known, no sound way is available to calculate the care offered to the country's marginal or indigent families.

The committee also encountered some problems in its primary assignment but the omissions do not prejudice the validity of the findings. For example, voluntary health insurance companies generally do not record the race or economic status of a policyholder. Information on policyholders' occupations and on the rate of policy turnover is fragmentary. This information would be of some value to congressmen and senators in the compulsory health insurance debate but is not essential to a sound survey.

(Continued on page 54)

"Boy! They weren't kidding when they said active duty, were they?"

AND *softness*

In KONDREMUL, each micro-globule is coated with a tough film of chondrus which resists gastrointestinal enzymic action—yet KONDREMUL pours freely from the bottle, is of velvety softness.

KONDREMUL, being finely subdivided, contributes soft bulk to the dry fecal residue, easing elimination and encouraging regular bowel habits.

KONDREMUL Plain (containing 55% mineral oil).
KONDREMUL with non-bitter Extract of Cascara (4.42 Gm. per 100 cc.)
KONDREMUL with Phenolphthalein—.13 Gm. (2.2 grs.) per tablespoonful.

Kondremul

AN EMULSION OF MINERAL OIL AND IRISH MOSS

Also in tablet form

KONDRETABS

—the original Irish Moss—Methyl Cellulose Bulk Laxative in Tablet Form.

KONDRETABS induce soft, easily eliminated bulk—no bloating, griping, impaction. Convenient, pleasant, easy to take.

THE E. L. PATCH COMPANY
STONEHAM, MASSACHUSETTS

TURICUM

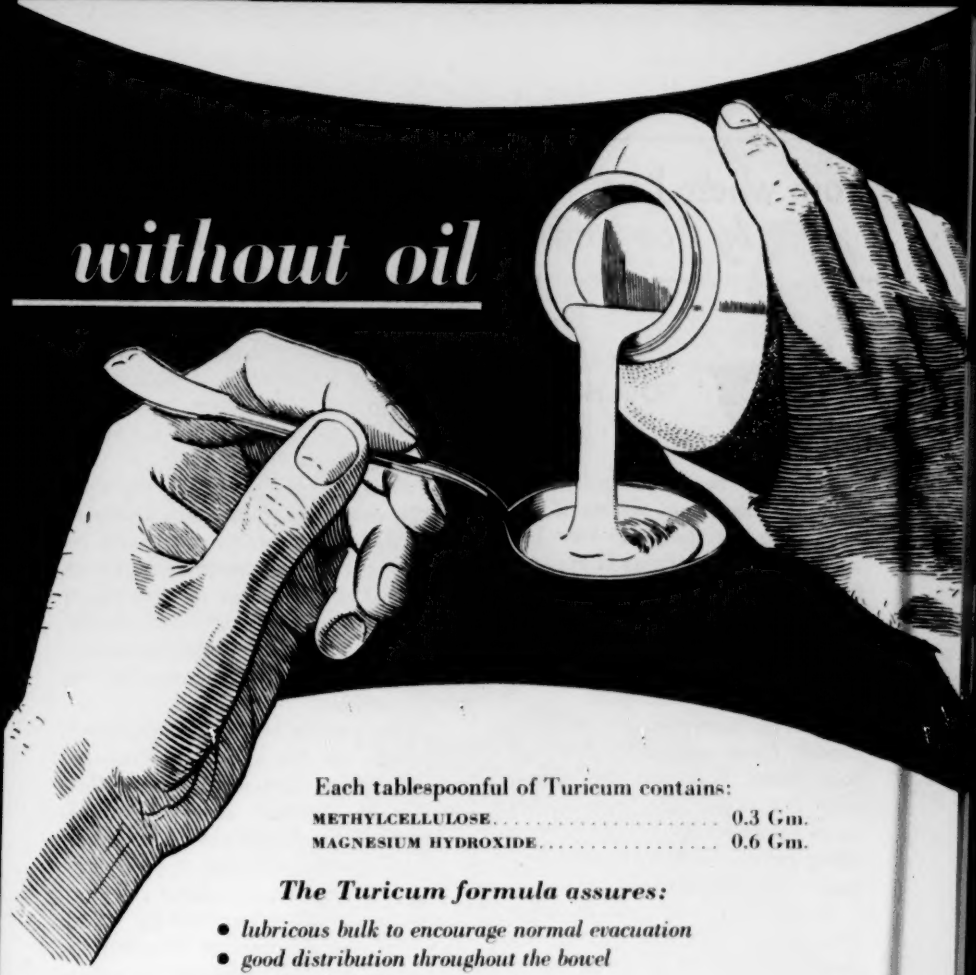
TRADE MARK

HYDROPHILIC LUBRICOID

—presents methylcellulose as a gel, to which magnesium hydroxide is added in less than laxative dosage to assure continued hydration of the gel throughout the intestinal tract.

In maintaining an osmotic equilibrium, the magnesium ion attracts and retains adequate water to keep the methylcellulose in the form of a soft gel—providing a distinctive efficient *lubricoid* action which promotes gentle elimination.

without oil



Each tablespoonful of Turicum contains:

METHYLCELLULOSE	0.3 Gm.
MAGNESIUM HYDROXIDE	0.6 Gm.

The Turicum formula assures:

- *lubricous bulk to encourage normal evacuation*
- *good distribution throughout the bowel*
- *no bloating*
- *no danger of impaction*
- *no interference with utilization of oil-soluble vitamins*
- *no danger of lipid pneumonia*
- *no leakage*

Turicum is available in one pint bottles.

Whittier
LABORATORIES
DIVISION NUTRITION RESEARCH LABORATORIES, INC., CHICAGO 11, ILLINOIS

The committee has surprisingly extensive information on the number of persons covered by voluntary plans, the type of programs, benefits provided, and age and sex of policyholders. Data are also complete on extent of employer contributions, earning records of various plans, and the condition of reserve funds. Figures from Blue Cross, for example, show that about 80% of policyholders who enter hospitals have their total bills paid; the record for surgical coverage is even higher.

Federal Security Agency reported to the committee that about 3,500,000 persons had comprehensive health insurance. The Commerce Department reported that medical services of all kinds—including drugs—cost America about 7.4 billion dollars annually, with physicians' fees accounting for 2.23 billion.

Some parcels of information turned over to the committee covered such a large cross section as to comprise a national survey. An example is an insurance company analysis of 100,000 rejected applications.

All information collected does not appear in the report, but Dr. Clark said that the complete files will be open to anyone interested in following up particular subjects.

Washington Notes

Veterans Administration–Defense Department agreement to put some military patients in VA hospitals will have an important, if indirect, reaction. The only way beds can be made available is to cut down the number of non-service connected cases handled by VA.

Handicapped persons in the United States number 2,000,000. Office of Vocational Rehabilitation empha-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sizes that they "constitute one of the few sources at hand to supply our growing manpower requirements."

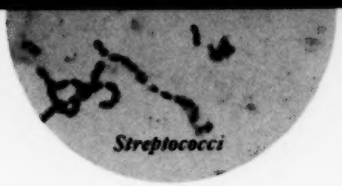
Third in a series of eight Civil Defense Administration films will be out next month. Several deal with medical phases of civil defense. Films will be handled through normal commercial distribution channels at $15.50 per reel and run about ten minutes each. Details can be obtained from state or local Civil Defense offices.

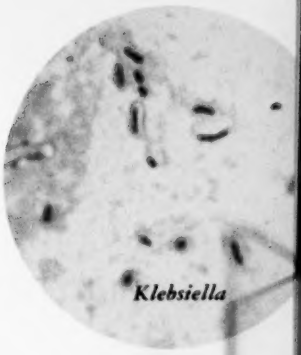
Army is pleased with the results in Korea from new removable steel bone pins for broken thighs. More tests are planned before standardizing the procedure.

Residency programs may be cut 25% next year according to Dr. Howard Rusk's National Advisory Committee to Selective Service.

Topnotch Army doctor, Col. William L. Wilson, is taking leave of the service. He will head Civil Defense Administration's Office of Health and Welfare. Part of his job is to coordinate emergency health and welfare services and supervise procurement of medicines and other supplies for federal regional medical stockpiles.

(Continued on page 61)





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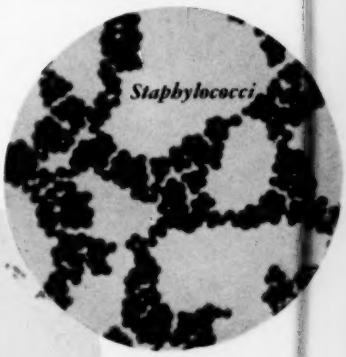

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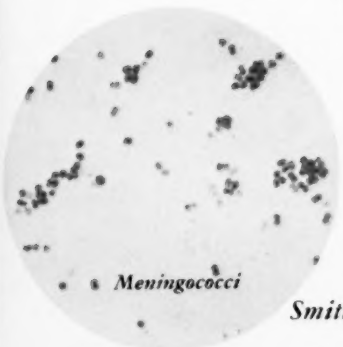

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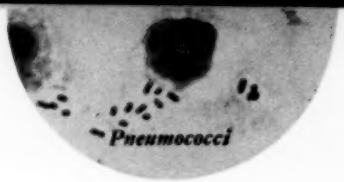

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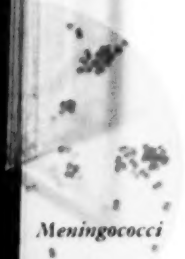

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Calpurate does not contain the sodium ion.

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whether edema is present or not, rapid improvement follows the myocardial stimulation with Calpurate.

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Calpurate, affording sustained coronary dilation, is a valuable aid in reducing the frequency and the severity of angina pectoris attacks. In thrombosis, when blood supply is equal to increased vigor of contraction, routine use of Calpurate augments blood supply and allays cardiac failure.

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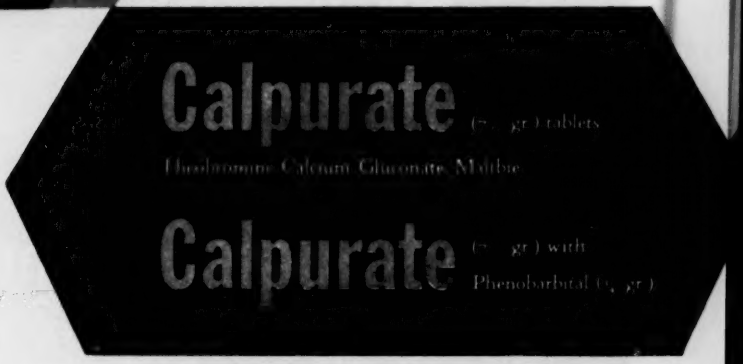

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Premedical student deferment will be provided in the doctor-draft law. After several weeks of backing and filling, both Senate and House Armed Services committees have agreed to retain the clause intended to keep premedical classes at present levels. Administrative headaches will come from trying to determine who are bona fide premedical students.

Brig. Gen. James S. Simmons, Dean of Harvard Public Health School, has renewed the demand for cabinet-rank secretary of health as a defense measure.

Emergency construction loans and grants of certain types are available for hospitals, but the whole program is clouded with misunderstandings. This much is certain: No hospital will be eligible under these emergency programs unless the institution is essential to civilian or military defense. Legislation now in the mill probably will be more lenient and allow for federal help in crowded areas.

AMA President Elmer Henderson, speaking in Washington, explained that AMA in no way limits or controls medical schools or their enrollment. The same day a committee reported to Surg. Gen. Scheele on a two-year survey of the relationship between U.S. grants and medical schools. The report found that education costs per student range from less than

(Continued on page 64)

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$1,500 to more than $3,500. Medical schools need tens of millions of dollars in additional help each year, although probably not the $40,000,000 deans want. The committee recommended that research grants be spread more uniformly over the country.

Two new ideas on federal aid to medical schools may turn up as bills in the next few weeks: [1] lump-sum appropriation each year, with distribution to be decided by the new National Science Foundation; [2] administration of a medical aid fund by the Hill-Burton hospital construction group. The first plan would immediately eliminate the Federal Security Agency and that threat to federal control. The second proposal would place the administration with the Hill-Burton construction work, generally recognized as an efficient, businesslike operation.

VA has more than 4,000 new beds it can't staff because of a shortage of professional personnel, yet several bills now waiting action would order VA to add 16,000 more beds.

Latest VA statistics: 66% of hospitalized cases are non-service connected. Among general medical and surgical cases, 88% are non-service connected. Average stay per patient is fifty days, at $10.90 per day. Fewer veterans are being treated by fee physicians, but the number treated by home-town physicians is sharply increasing.

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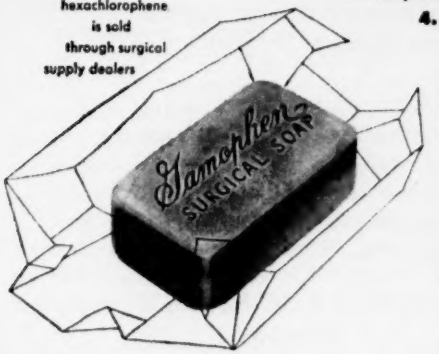

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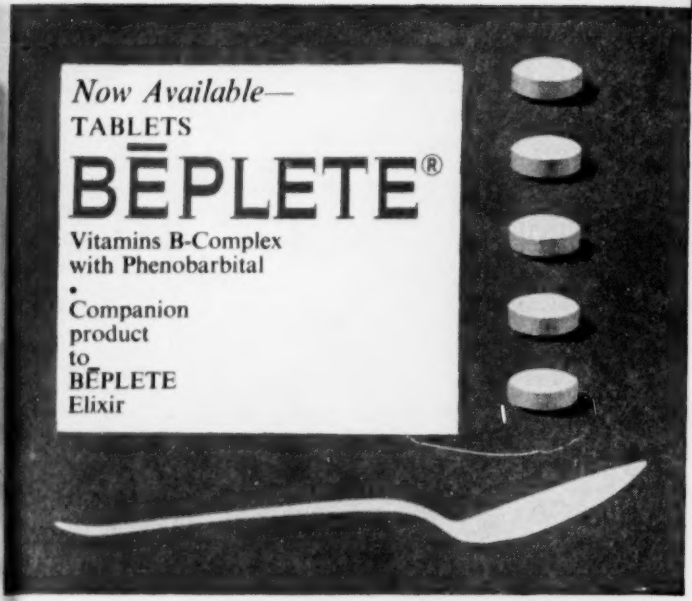

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Multiple Myeloma

LOUIS R. LIMARZI, M.D.*
University of Illinois, Chicago

An elderly white man with refractory anemia who has weakness and bone pain, especially lumbar backache, should be examined for multiple myeloma.

The manifestations are generally caused by destructive skeletal tumors. Vertebrae, ribs, and other bones are broken or crushed in more than 60% of cases, often by a fall, the strain of lifting, or even slight pressure.

Other regions, notably the kidneys, may be involved. Skeletal deformity, especially kyphosis, may increase susceptibility.

No symptoms are absolutely pathognomonic. Myeloma is frequently mistaken for lumbago, rheumatoid arthritis, neuralgia, Paget's disease, tabes dorsalis, nephritis, pernicious anemia, leukemia, pleurisy, or hyperparathyroidism, as well as metastatic cancer.

In diagnosis, Louis R. Limarzi, M.D., relies chiefly on roentgenography and aspiration of sternal marrow. Although no curative treatment is known, pain may be reduced by irradiation and drugs such as urethane.

In a group of 75 patients, 50 were men, including 2 Negroes, and 25 women. Age at the first examination was 40 to 74 years, and symptoms had continued several months to several years.

Multiple myeloma is an uninhibited proliferation of plasma cells from the hemopoietic reticulum. Not only red bone marrow but the liver and spleen may be involved.

Dark red gelatinous tumors that cut easily and bleed freely are commonly seen in the skull, ribs, sternum, spine, pelvis, or extremities and are particularly likely to be observed near the shoulder and pelvic girdle. Small tender lumps may appear.

The spinal cord and nerve roots may be compressed at any level. Slight to agonizing pain is felt in more than 80% of cases and may be associated with gradual onset of flaccid or spastic paraplegia or quadriplegia and loss of bowel and bladder control.

Roentgenograms show typical bone lesions, usually rounded, sharply demarcated, punched-out areas ranging from pea to orange size. Less often, diffuse mottling or flea-bitten patches of rarefaction are seen.

Myeloma cells are found in peripheral blood, marrow, and tumor in varying concentrations. The typical cell is indistinguishable from imma-

* Diagnostic and therapeutic aspects of multiple myeloma. M. Clin. North America 35:189-226, 1951.

ture plasma cells, although mature forms can be detected.

Diameter of the characteristic cell in aspirated marrow is generally 7 to 30 μ and the shape round, oval, or irregular. Cytoplasm stains bright blue. The nucleus is eccentric and has a large and well-defined nucleolus.

Blood may also contain immature red and white cells. Even with normal platelet count, a bleeding trend may develop. The globulin level is sometimes high, and hyperproteinemia may be related to great increase in plasma viscosity and sedimentation rate.

Red cells then form rouleaux, and clumping of corpuscles may interfere with cross matching.

Bence Jones proteinuria is observed in 65% of instances and may be early or late, constant or intermittent. Casts of the unnatural protein sometimes obstruct large numbers of renal tubules, causing extensive cortical atrophy.

Nephritis, in fact, may be the most serious effect of the disease, and many cases terminate with renal failure. Kidneys are also damaged when circulation is impeded by viscous blood. Nonprotein nitrogen is greatly increased in some instances but the development of hypertension is unusual.

If myeloma cells are not discovered in aspirated sternal marrow, samples are taken repeatedly from the spinous process, iliac crest, or ribs. Biopsy may be made of an accessible lesion.

Pain is frequently lessened by radioisotope or roentgen irradiation. Stilbamidine may be effective, or urethane in daily doses of 2 to 5 gm. or more, but prolonged therapy may cause toxic reactions, including leukopenia.

Blood transfusions are required for anemia and antibiotics for infection. Orthopedic measures are often helpful.

The course as a rule is steadily downhill. The average duration of life after diagnosis is three years, and few patients live five years or over.

¶ REITER'S SYNDROME of urethritis, arthritis, and conjunctivitis may promptly regress with ACTH or cortisone therapy. M. A. Ogryzlo, M.D., and Wallace Graham, M.D., of the University of Toronto noted recovery in 2 cases after single courses of the pituitary hormone in doses of 100 and 40 mg. for twelve and fourteen days. In a third instance, adrenal hormone produced remissions whether given orally or intramuscularly. Cortisone acetate was injected twice daily, 300 mg. per day for three days, 200 mg. for ten, and 150 mg. for ten, and given by mouth in a similar course but with 150 mg. for four days only. Symptoms recurred when hormonal therapy was withdrawn, but were slight in 2 cases suggesting that in a self-limited disease such as Reiter's syndrome either ACTH or cortisone may be efficacious.

J.A.M.A. 144:1239-1243, 1950.

Blood Sugar Tests

E. A. HAUNZ, M.D., AND D. C. KERANEN, M.T.*
Grand Forks Clinic, Grand Forks, N.D.

DIAGNOSIS and treatment of diabetes should be based on true blood sugar values, which are not shown by the time-honored Folin-Wu technic.

Blood glucose may be determined accurately by several current procedures, one of which is the Somogyi-Nelson method. For routine physical examination and some emergency cases, the five-minute screening test employed by the American Diabetic Association is adequate.

Old and new methods were evaluated by E. A. Haunz, M.D., and D. C. Keranen, M.T. Fasting blood sugar was determined in 400 tests of 100 men and women, of whom 66 were diabetic and 34 healthy.

In addition, glycosuria was estimated for each subject, using Benedict's qualitative reagent on second voidings. Specimens were obtained early in the morning. The urine to be analyzed was voided half an hour after the bladder was first emptied.

About 6 cc. of blood was withdrawn from the antecubital vein. In most cases only gentle pressure was applied before venipuncture, but a tourniquet was used when necessary. Sugar values were not increased by influx of arterial blood, since arteriovenous differences are important only after meals. Fingertip blood was obtained and determinations were made without delay.

The forty-minute Folin-Wu test was done with 2 cc. of protein-free filtrate, and the Somogyi-Nelson procedure, which takes only seven minutes more than the Folin-Wu, with 1 cc.

The official Wilkerson-Heftmann diabetic screening technic was carried out with 2 tablets and 0.1-cc. capillary samples for levels of 130 and 180 mg. per cent.

True sugar values obtained by the Somogyi-Nelson method were 118 to 386 mg. for diabetics and 50 to 114 mg. for healthy subjects. Folin-Wu figures were 135 to 436 mg. with diabetes and 63 to 146 mg. for normal individuals.

The screening technic was accurate within 5 mg. in 193 of 200 trials. In the other 7 instances, miscalculations ranged from 12 mg. above the actual values to 30 mg. below, but only 4 errors, or 2%, were significant.

The renal threshold for glucose was extremely variable. In 18 diabetic specimens, 1 to 4 plus glycosuria was found, but the remainder were entirely sugar free, except for a trace in 2 cases. No glucose appeared in 20 instances when blood values were over 160 mg. and occasionally over 200 mg. None of the healthy group had glycosuria.

The Folin-Wu method is based on reduction of sugar, and values are

* Blood sugar methods in clinical medicine. Journal-Lancet 71:9-16, 1951.

unreliable because the blood contains an unknown quantity of nonglucose reducing materials, or saccharoids.

The error is well known but mistakenly supposed to be constant, with values either 10 to 30 mg. too high or, with hypoglycemia, 15 to 18 mg. too low. Actually, individual variation is much greater. Even familiar saccharoids such as glutathione, ergothionine, and creatine may amount to 44 mg. per 100 cc. of blood.

Levels of nonglucose reducing substance can be determined by subtracting true blood sugar from the Folin-Wu determination. The average saccharoid value is about 26 mg. in healthy adults and 30.6 mg. in diabetics.

But the range from person to person is 2 to 72 mg. with diabetes and 8 to 49 mg. without. Including all subjects, levels exceed 30 mg. in approximately two-fifths of the cases, enough to invalidate the sugar reduction technic.

The Wilkerson-Heftmann screening test is simpler, faster, and more reliable than analysis of catheterized urine for rapid distinction between diabetic and insulin coma. The method may be employed with coma of other types and in office care of diabetics, especially children.

Thoracentesis in the Lateral Recumbent Position

MORRIS BRAVERMAN, M.D.*

PLEURAL fluid may be aspirated with safety, speed, and convenience when the patient is in the lateral recumbent position.

With the subject erect, a needle inserted in the most dependent portion of the pleural space is close to the diaphragm, lung, and liver. In such a position, the lung or liver may be punctured accidentally or the patient may faint if kept upright for a long period. During twelve years' usage of the lateral recumbent position for thoracentesis, Morris Braverman, M.D., of the Detroit Tuberculosis Sanatorium, Detroit, has noted no instance of syncope.

The lateral recumbent position is of greatest use in aspirating the hydropneumothorax of pulmonary tuberculosis.

The puncture is made near the upper axilla with the patient so placed that the flow of fluid from any pleural pocket is toward the shoulder trough of the free pleural space.

The patient may remain on a bed, stretcher, or operating room table, while the operator sits on a nearby chair. Some operating tables have a sliding section near the middle edge which may be moved, leaving the lateral chest wall freely exposed. Two tables also serve admirably, with the patient's head and shoulder resting on one, and the rest of his body on the other.

* Aspiration of pleural fluid. Dis. of Chest 18:450-455, 1950.

Treatment of Subacute Bacterial Endocarditis

ARTHUR L. BLOOMFIELD, M.D.*
Stanford University, San Francisco

MANAGEMENT of a patient with bacterial endocarditis requires careful individualized care. Routine therapy may be dangerous.

Of utmost importance is the choice of correct antibiotic and proper dosage schedule. Whenever possible, the infecting organism should be isolated by blood culture, identified, and its sensitivity to at least penicillin and streptomycin determined. Sensitivity studies reveal which antibiotics will be most efficacious and, in addition, facilitate planning of a treatment schedule.

The absolute minimum duration of therapy for subacute bacterial endocarditis is one month. Although the patient may feel well after a week of treatment, prolonged antibiotic administration is necessary to allow adequate sterilization of the bacterial vegetation in the heart.

The essence of treatment is time. A large dose of penicillin given over a few days may be followed by relapse. The same total dose spread over a longer period may achieve permanent cure. The masses of organisms trapped deep within the bacterial vegetation must be destroyed by the body's own defenses while the antibiotic stands guard.

The size of the daily dose of antibiotic is determined by the sensitivity studies. Organisms sensitive to 0.1 unit of penicillin or less per 1 cc. of culture can usually be cured by 400,000 units of penicillin a day. Arthur L. Bloomfield, M.D., recommends, however, that 600,000 units of penicillin be the smallest daily dose employed. This amount can most readily be given as 300,000 units of procaine penicillin intramuscularly every twelve hours.

For resistant organisms, 6,000,000 or more units of penicillin should be given daily. This amount of drug is best given in six to eight divided doses intramuscularly and crystalline penicillin should be used. Since *Streptococcus viridans* can develop increased resistance to peniciflin, adequate doses of the drug must be given from the outset of therapy.

Approximately 10% of the cases of subacute bacterial endocarditis are caused by the enterococcus, *Str. fecalis*. This organism is most resistant to penicillin. Relapses are common with enterococcal endocarditis. Infection with this organism is best combatted by massive penicillin therapy, up to 20,000,000 units a day or by streptomycin or a combination of both. A recommended dosage schedule for combined antibiotic therapy is 6,000,000 units of penicillin and 2 gm. of streptomycin daily. Occasionally, organisms resistant to either drug separately will respond to the combined therapy. Endocarditis caused by staphylococci or gram-

* The present status of treatment of subacute bacterial endocarditis. Circulation 2:801-810, 1950.

negative bacilli may be treated by streptomycin alone.

Despite the high percentage of bacterial cures, many patients with subacute bacterial endocarditis die from heart failure or fatal embolus. Heart failure may develop soon after the infection is cured because of the additional valvular damage caused by the bacteria and the fibrosis incident to the healing process.

This disheartening course of events is best avoided by early diagnosis of bacterial endocarditis. All patients known to have a valvular or congenital cardiac lesion should be carefully watched for the symptoms of endocarditis. Penicillin should be given prophylactically to such patients with upper respiratory infections and before, during, and for four to six days after oral surgery.

When bacterial endocarditis is suspected, several blood cultures, a dozen or more, should be made at intervals during the first few days of observation. Both liquid and solid culture media should be used under aerobic and anaerobic conditions. Despite these measures, occasionally when clinical evidence of subacute bacterial endocarditis is strongly suggestive, bacteriologic confirmation is lacking. Therapy should not be delayed too long while a positive blood culture is awaited. Penicillin in doses of 4,000,000 to 12,000,000 units a day for at least thirty days should be given. If this fails, combined therapy with streptomycin may be tried.

The use of anticoagulants for treatment of bacterial endocarditis is not recommended. Bed rest should be enforced for at least the first two weeks of therapy.

¶ AUREOMYCIN FOR AMEBIASIS promptly rids the stools of parasites and has no serious effects. At the U. S. Veterans Administration Hospital, Lincoln, Neb., oral doses of 0.75 to 1 gm. were given every six hours to 20 patients in one or two courses of 8 to 28 gm. C. F. Gutch, M.D., observed no more frequent recurrence than with a combination of emetine, carbarsone, and iodine-containing oxyquinoline derivatives. Side effects of the latter included damage to heart and liver.

Ann. Int. Med. 33:1407-1412, 1950.

¶ RELIEF OF ANGINA by ethyl chloride spray may reduce coronary spasm of acute myocardial infarction and limit necrosis. Janet Travell, M.D., of Cornell University, New York City, reports that a physician-patient stopped his pain in one minute by spraying the anterior chest wall within fifteen minutes after onset. Attacks were also interrupted several hours later. In addition, during painless intervals a few trigger areas in thoracic muscles were anesthetized with 1 cc. each of 0.5% procaine hydrochloride in saline.

Circulation 3:120-124, 1951.

Spontaneous Pneumothorax

BERNARD HYDE, M.D., AND LEROY HYDE, M.D.*

College of Medical Evangelists, Los Angeles

Long Beach Veterans Administration Hospital, Long Beach, Calif.

BENIGN spontaneous pneumothorax occurs about 4 times as often as the tuberculous form and frequently affects healthy people.

During a two-year period, 41 benign and 10 tuberculous cases were recognized in a 350-bed hospital.

Because of differences in treatment and outcome, diagnosis should be prompt. Contrasting features are outlined by Bernard Hyde, M.D., and Leroy Hyde, M.D. (see table).

Spontaneous collapse occurs 5 times as often in males as in females but is not related to effort. Sharp pain and dyspnea are usually experienced at onset.

Bed rest should be continued throughout reexpansion, which ordinarily takes four to eight weeks. Bathroom privileges are allowed when 80 to 85% of lung volume is regained, and full activity when expansion is complete. However, tension pneumothorax requires aspiration of air and also underwater drainage.

Tuberculous pneumothorax results from erosion and rupture of the visceral pleura. Any large amounts of pleural fluid should be removed and increased intrapleural pressure reduced. If dyspnea is not severe, no specific therapy is needed.

TWO TYPES OF PNEUMOTHORAX

	Benign Idiopathic Spontaneous Pneumothorax (76 cases)	Tuberculous Spontaneous Pneumothorax (35 cases)
Pulmonary infiltration on chest roentgenogram	0%	100%
Pleural adhesions	0%	91%
Pleural fluid above level of diaphragm	5% (All 4 patients had grossly bloody fluid)	54%
Immediate hospital mortality rate	0%	29%
Clinically ill	Not usually, and only very briefly (1 to 2 days)	Almost always
Fever present	May occur for a few days only, never more than a week; low-grade, 99-100°	Commonly. Usually prolonged; may be above 100°
After-care required	None. Patient can return to full activity after collapsed lung has reexpanded	Continued bed rest and treatment of pulmonary tuberculosis

* Spontaneous pneumothorax—contrast of the benign idiopathic and the tuberculous types. Ann. Int. Med. 33:1373-1377, 1950.

Auscultation of the Rheumatic Heart

MARIANO M. ALIMURUNG, M.D.
Santo Tomas University, Manila, Philippine Islands

MAURICE B. RAPPAPORT, E.E., AND HOWARD B. SPRAGUE, M.D.*
Cambridge, Mass. *Massachusetts General Hospital, Boston*

USE of the phonocardiograph facilitates understanding of the sounds and murmurs caused by various cardiac valvular deformities resulting from rheumatic fever. In difficult cases, the phonocardiographic record helps interpret auscultatory findings.

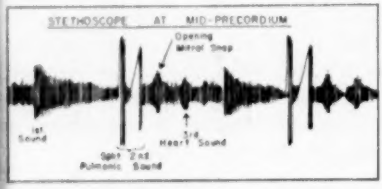


Fig. 1

For example, reduplication of the second sound at the heart's apex may be caused by normal phenomena or by the opening snap of a stenotic mitral valve. Differentiation is important but often difficult clinically. The phonocardiogram, however, distinguishes between the two sounds by reason of temporal relationship to the second sound and by different graphic characteristics (Fig. 1). The two components of a split second sound come within 0.07 seconds of each other. An opening snap, however, is usually more than 0.08 seconds after the second sound.

The phonocardiograph emphasizes the importance of choosing the right stethoscope chest piece for different murmurs. Because of the low frequency of pitch, the middiastolic rumble of mitral stenosis may be inaudible with the diaphragm chest piece. The bell type is more suitably designed physically to transmit such low frequency murmurs and should be used when listening for middiastolic apical rumbles. Summation of third and auricular heart sounds at the apex may simulate sounds with mitral stenosis. A dilated left ventricle can also cause rumbling in diastole.

Exercise to increase the heart rate and placing of the patient in the left lateral decubitus position (Fig. 2) will also render the murmurs of mitral stenosis more audible.

A presystolic crescendo murmur at the heart's apex is also commonly heard in patients with mitral stenosis without fibrillation. This murmur terminates in a loud snapping first sound.

Pulmonary hypertension with mitral stenosis causes the second pulmonic sound to be loud, often extremely so. The Graham Steell murmur, a protodiastolic puff to the left of the sternum in the second interspace, also reflects the high pulmonary artery pressure caused by

* The auscultatory signs in rheumatic valvular disease. New England J. Med. 244:1-9, 1951.

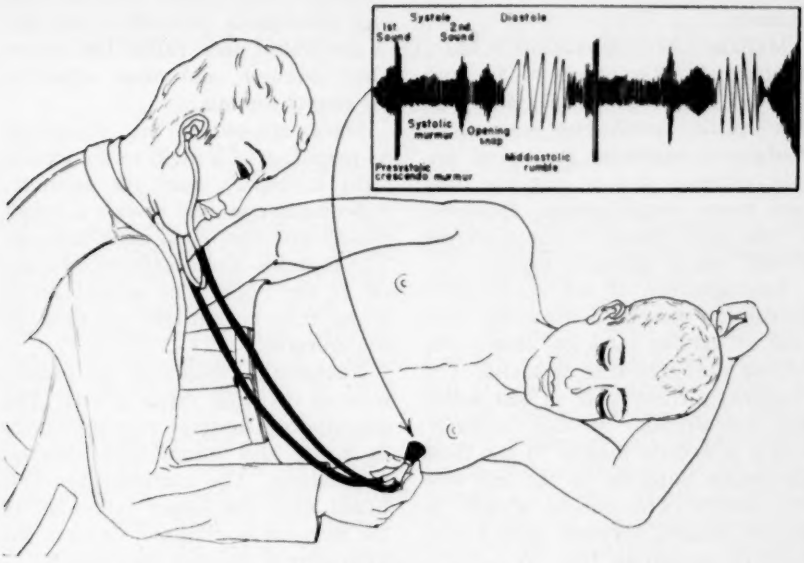


Fig. 2 Mitral stenosis

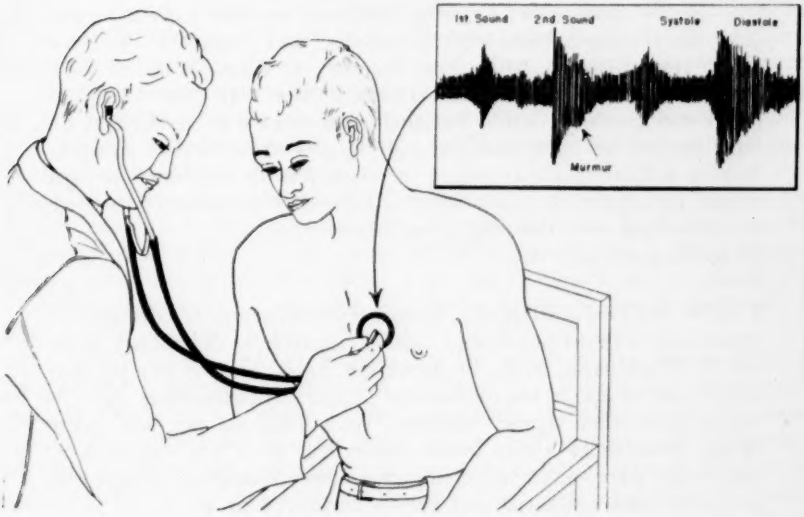


Fig. 3. Aortic insufficiency

mitral stenosis. This murmur is uncommon.

Mariano M. Alimurung, M.D., Maurice B. Rappaport, E.E., and Howard B. Sprague, M.D., find that true mitral insufficiency causes no distinctive murmurs. An apical systolic murmur may or may not indicate mitral regurgitation. However, a very loud systolic murmur in the mitral area is generally organic.

Incompetence of the aortic valve produces a blowing diminuendo murmur of varying duration closely following the second heart sound. The diaphragm chest piece is best suited for auscultation of this murmur, which is usually loudest in the third interspace adjacent to the left sternal border. The patient should be seated, leaning forward, with breath held in expiration (Fig. 3).

Severe aortic valve regurgitation may produce a presystolic murmur in the mitral area, called the Austin Flint murmur, and often mistaken for mitral stenosis.

Aortic stenosis is best diagnosed by palpation of a thrill in the second right interspace near the sternum. Auscultation usually reveals a rough systolic murmur in the same location. The murmur occasionally seems loudest at the apex. The second aortic sound may be entirely obscured by the murmur.

Rheumatic damage to the pulmonary or tricuspid valves is rare. The auscultatory findings resemble those of aortic and mitral valve lesions, respectively. The murmurs are best heard near the upper left edge of the sternum (pulmonic) or near the xiphisternal junction (tricuspid).

¶ BEDSIDE COMMODES are less taxing than bedpans and therefore usually preferable. In using bedpans, patients expend about 50% more oxygen than with commodes, find Joseph G. Benton, M.D., Henry Brown, M.D., and Howard A. Rusk, M.D., of New York University–Bellevue Medical Center, New York City. A respirometer was employed while Valsalva maneuvers were performed on both devices by 13 noncardiac and 15 ambulant cardiac subjects. During defecation on a bedpan, a severely ill or weakened patient should be supported comfortably by pillows, adjustment of the bed, or legs swung over the edge to a bedside stool.

J.A.M.A. 144:1443-1447, 1950.

¶ NEW ANTISPASMODIC, Bentyl Hydrochloride, is effective yet practically without unpleasant side effects such as dry mouth. Donald T. Chamberlin, M.D., of Brookline, Mass., treated 111 patients for periods of one to ten months for primary dysmenorrhea, irritable colon, and other spastic disorders. As a rule, 10 mg. was taken orally three times a day before meals but in a few instances 20 mg. doses were employed. Symptoms were completely relieved in 36 of 71 cases evaluated and greatly improved in 24.

Gastroenterology 17:224-225, 1951.

Effects of Rice-Fruit Diet on the Body

CARLETON B. CHAPMAN, M.D., THOMAS GIBBONS, M.D., AND AUSTIN HENSCHEL, PH.D.*

University of Minnesota, Minneapolis

THE Kempner rice-fruit diet produces profound changes in the composition of the body. Although capable of lowering the blood pressure in many hypertensive patients, the diet may, under some circumstances, be dangerous and is never curative.

The rice-fruit diet is helpful if used for short periods to relieve symptoms of hypertension. With some patients, high blood pressure will decline while eating the diet, occasionally to normal levels. However, prolonged use of the unmodified diet is objectionable on theoretic grounds, declare Carleton B. Chapman, M.D., Thomas Gibbons, M.D., and Austin Henschel, Ph.D.

Although the regimen is fairly adequate in calories, the 20 gm. of protein daily is of semistarvation level; patients who adhere strictly to the prescribed foods lose about 3.3 lb. each week. The early decrease in weight results almost entirely from loss of fat and extracellular fluid.

Patients who initially are of normal weight probably begin to consume active tissue, such as muscle, for energy production soon after starting the diet. An obese hypertensive patient benefits by reduction in body fat stores but probably even an overweight patient acquires a negative nitrogen balance on the strict Kempner regimen. This situation can hardly be beneficial.

An essential feature of the Kempner diet seems to be the extremely low salt content—15 to 20 mg. sodium per day. Addition of 10 gm. of sodium chloride causes rapid return of the headache and dyspnea associated with a definite rise in blood pressure. The risk of the salt-depletion syndrome, especially in patients with renal insufficiency, demands some discrimination in application of the diet.

Besides losing fat, patients eating the rice-fruit diet lose a significant amount of extracellular fluid. Plasma and blood volumes also tend to decrease. The safety of prolonged existence with seriously contracted bodily fluid spaces appears questionable.

The rice-fruit diet is free of cholesterol, containing but 3 to 4 gm. of fat, all from vegetable sources. This is reflected by a sharp decline in the patient's serum cholesterol level. Whether this is beneficial is at present unknown.

The rice-fruit diet cannot be considered a fundamental therapeutic approach to hypertension. Semistarvation and extreme salt restriction are probably the effective features of the diet, but elevation of blood

* The effect of the rice-fruit diet on the composition of the body. New England J. Med. 243:899-905, 1950.

pressure is certainly not due to normal food or salt intake.

The Sodium Amytal sedation test and the cold-pressor test fail to predict the patients who will benefit from the diet, although the reactivity of the vascular system is diminished by the diet.

Addition of 40 gm. of salt-free animal protein to the patient's daily menu eliminates many of the undesirable features of the rice-fruit diet without abolishing the depressor effects. Lonolac, a powdered milk dialyzed free of sodium, may be employed for this purpose.

Patients taking this modified diet do not lose weight and are free of hypertensive symptoms; blood pressures remain at the same lowered level achieved by use of the strict rice-fruit diet.

Rheumatoid Arthritis and Diabetes Mellitus

KLAUS A. J. JÄRVINEN*

THE nature of adrenal hormone action on rheumatoid arthritis may be understood by observing the lack of relationship between arthritis and diabetes when both occur in the same person.

ACTH and cortisone apparently cause adrenal cortical atrophy and thus reduce secretion of desoxycorticosterone, believed by Selye to be the essential antirheumatism factor.

An explanation offered by Klaus A. J. Järvinen of the University of Helsinki, Finland, is based on 1,008 cases of rheumatoid arthritis and 766 cases of diabetes, including 13 instances of simultaneous involvement.

The two diseases seemed entirely independent, with no special tendency to occur together or alone. About 1.3% of arthritic patients had diabetes, and 1.7% of diabetics had arthritis, rates approximately the same as for the general population.

In the group with both ailments, the one acquired first was generally uninfluenced by onset of the second. Rheumatoid arthritis was aggravated by diabetes in only 2 cases, and the reverse was noted once. Diabetes certainly had no curative effect on arthritis.

In current opinion, however, diabetes is closely linked with increased secretion of ACTH by the pituitary and of cortisone by the adrenals. Obviously, the glandular products act differently in physiologic and massive amounts.

Failure of diabetes to relieve symptoms of arthritis agrees with statements of Hench and others that small doses of hormones have no therapeutic effect. The contradiction may be explained by adrenal cortical atrophy, which seems to result from large doses.

* A study of the interrelations of rheumatoid arthritis and diabetes mellitus. Ann. Rheumat. Dis. 9:226-230, 1950.

Macrocytic Anemia: Diagnosis and Therapy

GRACE A. GOLDSMITH, M.D.*
Tulane University, New Orleans

ALTHOUGH pernicious anemia may be satisfactorily treated by parenteral liver extract or vitamin B_{12}, the other macrocytic anemias may require folic acid in addition.

Determination of the type of anemia is a relatively simple procedure that may be accomplished in the office of most practicing physicians. In obtaining blood for diagnosis, venipuncture is employed, avoiding stasis by release of the tourniquet before blood is withdrawn.

In a tube containing 6 mg. of solid ammonium oxalate and 4 mg. of solid potassium oxalate is placed 5 cc. of blood. Smears may be made with the last few drops in the syringe. The volume of packed cells is determined in the Wintrobe hematocrit tube centrifuged at 300 rpm for one-half hour.

With macrocytic anemia, the mean cell volume is usually greater than 100 cubic μ, but the mean corpuscular hemoglobin concentration is normal. The blood smear with severe anemia shows distinct variation in size and shape of the red cells, many large oval erythrocytes, and, frequently, numerous large multilobed polymorphonuclear leukocytes.

All red cells appear well filled with hemoglobin. The platelet and white blood cell counts are usually decreased. The bone marrow shows pronounced hyperplasia and large numbers of megaloblasts. Rarely, the marrow may be hypoplastic and, with some of the nutritional macrocytic anemias, normoblasts are predominant.

TABLE 1. SYNDROMES ASSOCIATED WITH MACROCYTIC ANEMIA

Pernicious anemia
Carcinoma of stomach
Postgastrectomy
Sprue
Idiopathic steatorrhea
Celiac disease
Nutritional macrocytic anemia, tropical and temperate
Pellagra, occasionally
Intestinal stricture
Resection
Gastrocolic fistula, rarely
Macrocytic anemia of pregnancy
Liver disease, chronic and severe
Hypothyroidism, occasionally
Diphyllobothrium latum infestation, possibly
Megaloblastic anemia of infancy

The etiology of macrocytic anemia may be hard to determine (Table 1) and macrocytosis occasionally occurs with some of the hemolytic anemias and with aplastic anemia. The differential diagnosis of pernicious anemia, sprue, and nutritional macrocytic anemia is particularly difficult to make (Table 2).

Pernicious anemia is caused by lack of intrinsic factor in the gastric juice but other macrocytic anemias

* The diagnosis and treatment of macrocytic anemia. New Orleans M. & S. J. 103:309-316, 1951.

TABLE 2. DIFFERENTIAL DIAGNOSIS

Clinical and Laboratory Findings	*Pernicious Anemia*	*Sprue*	*Nutritional Macrocytic Anemia*
Family predisposition	+	−	−
History of poor diet	+	++	+++
Weight loss	+	+++	++
Glossitis	++	+++	+++
Diarrhea	+	+++	++
Abdominal distention	−	+++	+
Signs of multiple vitamin deficiency	−	+++	++
Neurologic abnormalities*	++	+	+
Macrocytic anemia	+++	++	+++
Hypochromic anemia	−	+	+
Deficiency pattern on roentgenograms of small intestine	−	++	+
Histamine achlorhydria	+++	+	+
Flat glucose tolerance test	−	++	+
Flat fat tolerance test	−	+++	?
Steatorrhea	−	+++	+
Hypocalcemia	−	+	−
Elevated serum bilirubin	+++	+	+
Low serum vitamin A	−	++	+
Prolonged prothrombin time	−	+	−

*Peripheral neuritis in all three syndromes, combined degeneration of spinal cord in pernicious anemia.

may be associated with a deficiency of dietary extrinsic factor or of both extrinsic and intrinsic factors, with poor absorption, inadequate storage, or improper utilization of the erythrocyte maturation factor. Although folic acid stimulates blood regeneration in most macrocytic anemias, the agent is not the erythrocyte maturation factor, since central nervous lesions are unaffected and relapses do occur during therapy. Vitamin B_{12}, however, is apparently the antianemic principle of liver, being similar to or identical with Castle's extrinsic factor; 1 μ of vitamin B_{12} is approximately equivalent in hematopoiesis to 1 unit of liver extract.

Oral vitamin B_{12} is useful as a therapeutic test in differentiating the various types of macrocytic anemia. If extrinsic factor is lacking, B_{12} should be effective orally, while if inadequate intrinsic factor is responsible, response to oral therapy occurs only when this substance is also supplied. If absorption is defective, parenteral therapy will be necessary.

The therapy of pernicious anemia consists of parenteral liver extract or vitamin B_{12}. Grace A. Goldsmith, M.D., found that the dose of vitamin B_{12} necessary to stimulate blood regeneration is about 2.5 to 3 μ daily. When 15 patients with pernicious anemia were treated by B_{12} the reticulocyte counts rose promptly, reaching a maximum within five to ten days.

Blood elements were normal after about two months.

Such treatment must be continued for the patient's lifetime, the maintenance requirement being 0.5 to 2 units of liver extract or 0.5 to 2 μ of vitamin B_{12} daily. Injections may be given at monthly intervals, although some persons require more frequent administration. The adequacy of therapy may be judged by the reticulocyte response and the red cell regeneration.

Although liver extract may contain hematopoietic substances other than vitamin B_{12}, the latter is preferable. Vitamin B_{12} does not cause allergic reactions and is a pure material whose potency can be accurately measured.

Folic acid is extremely effective for practically all instances of sprue and nutritional macrocytic anemia and surpasses vitamin B_{12} in the therapy of macrocytic anemia of pregnancy and megaloblastic anemia of infancy. Except for macrocytic anemia of liver disease, smaller doses of liver extract or vitamin B_{12} are required for nonaddisonian anemia than for pernicious anemia.

Shotgun therapy with all known antianemic substances is expensive, prevents an accurate diagnosis, and often supplies inadequate quantities of the needed factor. Iron is rarely indicated for uncomplicated macrocytic anemias; and folic acid, vitamin B_{12}, and liver extract are of no benefit for iron-deficiency anemia.

¶ TWO-STEP EXERCISE TESTS may produce false positive reactions. The Master single 2-step procedure taking one and a half minutes and the three-minute double test were tried on 200 healthy men and women aged 17 to 57 years by Leonard Scherlis, M.D., and associates at Mount Sinai Hospital, New York City. On the bases of electrocardiographic RS-T depression, 2.5% had positive single tests, 5.5% positive double tests, totaling 6.5% who had positive single or double tests or both. Precordial lead V_4 or V_5 was most often affected.

J. Mt. Sinai Hosp. 17:242-253, 1950.

¶ CIRRHOSIS OF THE LIVER favors development of glomerulonephritis. Arthur J. Patek, Jr., M.D., David Seegal, M.D., and Margaret Bevans, M.D., noted acute, subacute, or chronic renal involvement in 7% of 200 hepatic cases at Goldwater Memorial Hospital, New York City. In general hospital populations incidence of glomerulonephritis is about 0.5 to 1%. Of 60 cirrhotic patients examined post mortem, 12% had intercapillary nephritis. Kidney disease begins months or years after onset of hepatitis, usually follows streptococcic respiratory infection, and commonly precipitates hepatic failure.

Am. J. M. Sc. 221:77-85, 1951.

Superior Vena Caval Obstruction

DAVID S. HOWELL, M.D.*
University of Pennsylvania, Philadelphia

ELEVATED venous pressure in the arms with a normal pressure in the femoral veins is confirmatory indication of obstruction of the superior vena cava.

Among the earliest signs of the condition are numerous small, isolated purple venules distributed over the chest wall and edema of the eyelids. Later, venous engorgement and edema of the neck, head, and arms appear. Dilated superficial veins on the chest and abdomen are significant.

The superior vena cava may become obstructed from one of several diseases:

- Chronic mediastinitis of tuberculous, syphilitic, or undetermined etiology
- Primary malignant tumors of the bronchus, lung, mediastinal lymph nodes, thymus, or esophagus
- Aortic aneurysm
- Miscellaneous processes, including propagating thrombi, local phlebitis, metastatic cancer, and actinomycosis

David S. Howell, M.D., explains that the site of obstruction can be ascertained with relative certainty from the location of the superficial collateral pathways which develop (see illustration).

Obstruction of the innominate vein causes blood to pass from branches of the external jugular and lateral thoracic veins to branches of the internal mammary vein. From there, the blood moves through the internal mammary, intercostal, and hemiazygos and azygos veins to the superior vena cava. Thus, a plexus of dilated veins localized on one side of the anterior chest wall is a diagnostic sign of innominate vein obstruction on that side.

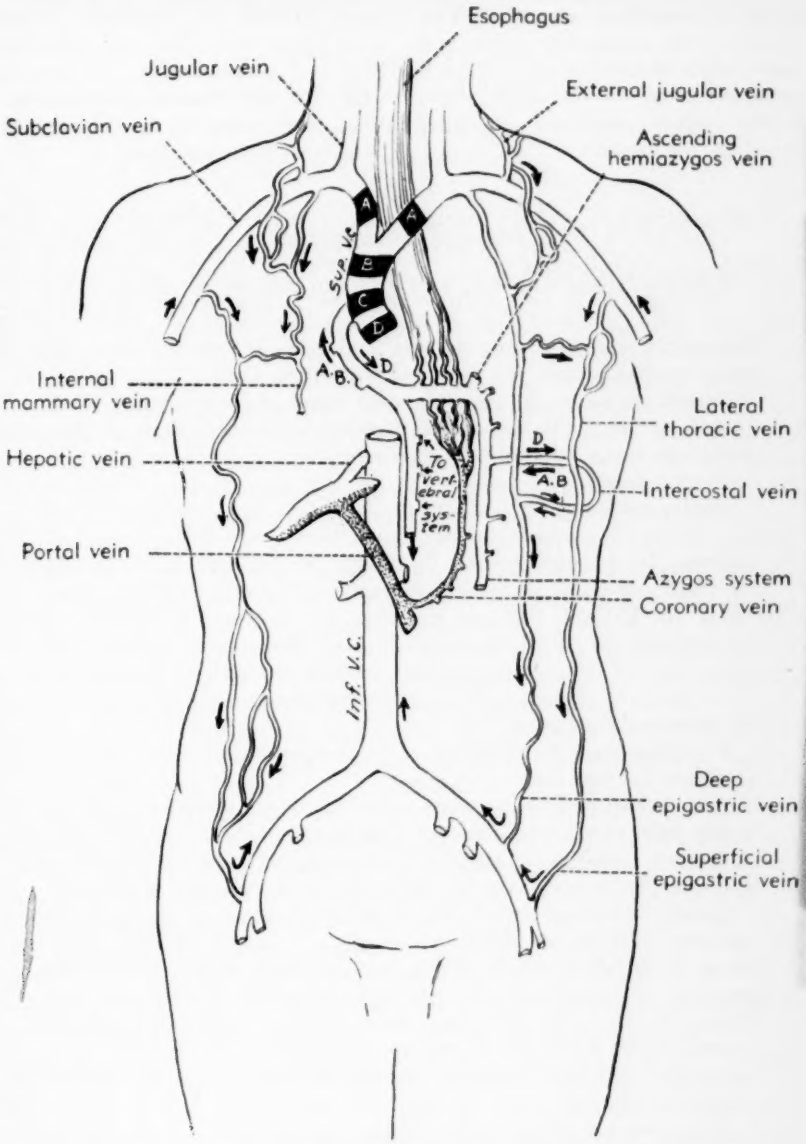
Effects from obstruction of the superior vena cava above the azygos entrance are similar to those resulting when both innominate veins are occluded. A prominent venous pattern is seen on both sides of the chest.

Blockage of the superior vena cava at or below the entrance of the azygos vein prohibits this effective route of collateral flow into the superior vena cava. Blood is then directed from the internal mammary veins to the inferior vena cava by either [1] the lateral thoracic, superficial epigastric, saphenous, and iliac veins or [2] the superior and inferior epigastric and iliac veins. The pattern of dilated superficial veins extends from both anterior and lateral thoracic walls to the lower abdomen.

Superior vena cava obstruction must be differentiated from obstruction of the inferior vena cava, which also produces a superficial venous

* Circulatory manifestations of obstruction of the superior vena cava in a patient with portal hypertension. Rhode Island M. J. 33:659-662, 686, 1950.

Pathways of Collateral Circulation Indicate Site of Obstruction



pattern. If segments of two of the dilated veins, one above and one below the umbilicus, are collapsed by spreading the examining thumb and index finger along their courses, both veins are seen to fill from above in the former condition and from below in the latter.

Treatment of mediastinal lymphoma is by irradiation, nitrogen mustard, ACTH, or cortisone. Mediastinotomy with lysis of adhesions has been recommended for persons with chronic fibrous mediastinitis. Phlebotomy may be of symptomatic benefit to such patients.

Insulin Resistance

JAMES W. SHERRILL, M.D., AND RICHARD LAWRENCE, JR., M.D.*

REFRACTIVENESS to insulin is rare and probably results from excessive destruction of the hormone within the body.

Insulin resistance is assumed when more than 300 units is required for the daily control of diabetes. A healthy adult secretes about 200 units a day, but patients in diabetic coma may require enormous doses.

Insulin resistance is frequently ushered in by an infection and may last for a variable period, up to three years for one-third of patients. In a case reported by James W. Sherrill, M.D., of the University of California, San Francisco, and Comdr. Richard Lawrence, Jr., M.C., U.S.N., of the U.S. Naval Hospital, San Diego, insulin requirement dropped swiftly from almost 2,000 units to less than 100 units after a gangrenous leg was refrigerated preparatory to amputation. After amputation the requirement promptly rose to the previous high level.

This phenomenon recurred when the patient's second leg was amputated a year later.

The over-all action of insulin is to facilitate carbohydrate storage in the form of glycogen and fat. The hormone favors the first step in glucose metabolism, namely, the phosphorylation of glucose to glucose-6-phosphate under the influence of the enzyme hexokinase.

Insulin resistance cannot be accounted for on the basis of inadequate absorption, excessive loss in the urine, allergy, or immune reactions. Experimentally, various body tissues possess the property of inactivating insulin, liver being the most potent and blood plasma least inhibiting. Insulin-resistant patients probably produce some unknown factor, an antihormone or neutralizing or destroying substance, able to destroy relatively large amounts of exogenous insulin.

* Insulin resistance: the mechanisms involved and the influence of infection and refrigeration. U.S. Armed Forces M. J. 1:1399-1409, 1950.

Cancer in Presumed Benign Gastric Ulcer

ELMER G. LAMPERT, M.D.
Copley Memorial Hospital, Aurora, Ill.
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Mayo Clinic, Rochester, Minn.

No reliable clinical criteria are available to differentiate gastric carcinoma from benign ulcer. Temporizing with an ulcerating lesion of the stomach, therefore, introduces serious risk.

Often the differentiation is made by the pathologist after removal of the tissues and not by the clinician or surgeon; approximately 10% of ulcers that appear benign grossly prove to be malignant by microscopic examination.

Elmer G. Lampert, M.D., John M. Waugh, M.D., and Malcolm B. Dockerty, M.D., in a series of pathologically proved gastric malignant lesions at the Mayo Clinic, found that 13% of patients given a preoperative diagnosis of benign ulcerating lesion of the stomach were discovered at surgery to have cancer.

Primarily, the responsibility of distinguishing benign from malignant gastric ulcers falls on the roentgenologist, but about one-tenth cannot be exactly defined by roentgenograms.

In the study of 73 patients with supposed benign lesions later proved malignant, males were in the overwhelming majority. The average age at onset of symptoms was 49 years, with a duration of approximately three years before operation. For benign ulcers, the age at onset is about 40 years.

Over 25% of the patients had had an ulcer type of dyspepsia for many years, but about one-fifth had duodenal ulcers associated with the gastric lesions, demonstrable by either roentgenologic examination or exploration. A definite and recorded change often occurred in the character of the symptoms, presumably with the development of the gastric neoplasm and, at the time of surgery, nearly two-thirds of patient had progressively severe symptoms.

Epigastric pain is the most important and most frequently encountered symptom of benign gastric ulcer and of cancer of the stomach. In the majority of questionable cases, the distress was characterized by periodicity of the uncomplicated peptic ulcer variety. In many, the pain was not described in this sense, but was of constant character, increasing in severity, not rhythmic, and not relieved by antacids or food.

More than 25% of the patients had had one or more gastric hemorrhages, sufficient to produce hematemesis, or had noted tarry stools. Only 1 patient had had melena without hematemesis. If emesis was severe, the condition usually persisted, be-

* The incidence of malignancy in gastric ulcers believed preoperatively to be benign. Surg., Gynec. & Obst. 91:673-679, 1950.

came progressively worse, and was a major symptom.

The free hydrochloric acid in cases of ulcerating malignant gastric lesions and duodenal ulcers was more frequently normal than when the cancer was not associated with ulcer. However, in the entire group, approximately two-thirds had free hydrochloric acid within normal limits.

More than three-quarters of the questionable or presumed benign ulcers were 4 cm. or less in diameter, and the great majority were on or near the lesser curvature. The degree of cellular differentiation closely corresponded to that found in any group of gastric cancers, but, in a greater number, malignant cells were confined to the mucosa and submucosa.

The resectability rate in the series was over 80%, and the operative mortality was quite low. Of the 70 patients surviving surgery, slightly less than half lived five or more years.

Perineal Hernia: Etiology and Therapy

AMOS R. KOONTZ, M.D.*

PROTRUSION between the muscles and fascia of the pelvic floor constitutes perineal hernia, which, excepting sciatic hernia, is the rarest type. Amos R. Koontz, M.D., of Baltimore, who describes a recent case, believes that the total number reported is below 100.

Perineal hernia usually occurs between the ages of 40 and 60 and is 5 times more common in females than in males. Congenital predisposition is the most important factor in the etiology of the lesion. Anomalous intermuscular openings and abnormal distal extension of the parietal peritoneum are usually found. Contributory causes are pelvic floor infections, birth injuries, and strain. Ascites may also be a factor.

The hernias are either anterior or posterior. The anterior type, occurring only in females, protrudes through the urogenital diaphragm. Frequently the bladder or small intestine is found in the wall of the sac. Since the adnexa are soft and the sac wide, strangulation is rare. The rectum may be prolapsed.

Perineal hernia is differentiated from rectocele, cystocele, and other manifestations of a relaxed vaginal outlet by the peritoneal sac which goes directly through the pelvic floor and is not a bulging of the vagina from relaxation of the vaginal wall. Diagnosis cannot be made by the appearance of the mass. The hernia must be reduced, and the ring shown to be actually in the pelvic floor.

Surgery is the preferred treatment. The approach may be external, abdominal, or combined. Usually the abdominal route is advisable.

* Perineal hernia. Ann. Surg. 133:255-260, 1951.

Diagnosis of Schamberg's Disease

GORDON B. CARVER, M.D., AND ALEXANDER BLAIN III, M.D.*
Walsh Clinic, Miami *University of Michigan, Ann Arbor*

PIGMENTATION of the skin of the lower extremities is not necessarily an indication of venous stasis, even though varicose veins may be present.

Diagnosis of Schamberg's disease should be considered when pigmentation is greater than the degree of venous stasis would justify.

Schamberg's disease is of unknown etiology but is not caused by stasis, and surgical treatment to correct venous insufficiency has no effect upon the pigmentation. The lesions

DIFFERENTIAL DIAGNOSIS

CHARACTERISTICS	STASIS DERMATITIS	SCHAMBERG'S DISEASE	MAJOCCHI'S DISEASE
Size of pigmentation areas	Plaques	Pinpoint	Small to large arcuate patches
Color of areas	Golden-brown to black	Golden-brown to cayenne pepper	Purplish-red or heliotrope, purpuric
Confluence	Present	Present	Present
Configuration	Diffuse	Diffuse	Annular
Localization	Lower legs, mainly medial malleoli	Lower legs, dorsum of feet, wrists, forearms; rarely thighs, chest, back, buttocks	Legs principally, but anywhere on body
Atrophy	Late stages	None	Late stages
Desquamation	Present	From none to minimal	None
Subjective symptoms	Aching, pruritus, ulcer pain	None or slight pruritus	Rheumatoid and neuralgic in prodrome
Duration	Chronic	Chronic	Six months to a year
Sex	About equal	Predominantly male	Young adult males
Histology	Congestion of vessels with fibrosis of walls and perivascular fibrosis	Hemosiderin granules in subpapillary layers of dermis with subacute inflammatory changes	Obliterating endarteritis, vessels increased in number, congested, free hemorrhage

* A consideration of Schamberg's disease and the dermatitis due to venous insufficiency. Univ. Mich. M. Bull. 16:209, 1950.

are not usually pruritic and have no serious consequences. The pigment is iron; granules of hemosiderin are found in late stages of the disease.

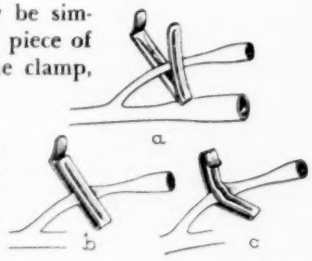
Two diseases which may be confused with the condition are early stasis dermatitis and Majocchi's disease (see table).

No relationship is known to exist between Schamberg's disease and climate, occupation, weight, height, or emotional status, but every reported case in American and English literature, with 1 exception, has been a member of the white race.

Observation by Gordon B. Carver, M.D., and Alexander Blain III, M.D., of 46 cases of Schamberg's disease at the University of Michigan Hospital during the past quarter century substantiates earlier opinion that the disease predominates in young males but that the condition is not limited to this age group or sex.

Of the patients, 26% had associated varicosities, and 11% stasis dermatitis; the latter condition developed in 2 cases afterward. The extent of pigmentation was variable; involvement was limited to the lower legs in 52% of the patients, but was extensive in 8%.

¶ CATHETER INTAKE TUBE may be simply and effectively clamped by a small piece of aluminum crimped on both sides. The clamp, described by Edward N. Cook, M.D., of the Mayo Clinic, Rochester, Minn., is easy to apply or remove and does not damage the catheter apparatus (see illustration). The two flaps are pressed together over the portion of tube to be blocked and are held in place by a tab folded over at one end. The whole clamp is then bent slightly to insure closure. For removal, the metal is bent in the opposite direction.



Proc. Staff Meet., Mayo Clin. 26:14-15, 1951.

¶ BILIARY SYMPTOMS after cholecystectomy result from pancreatitis in only 2% of cases and hardly more often from an operable condition. The syndrome is probably a functional disorder of the sphincter mechanism, comments David A. Dreiling, M.D. The secretin test was employed at Mount Sinai Hospital, New York City, on 98 patients with postoperative digestive complaints, including typical biliary colic. The pancreatic and bile pigment responses were normal in 84 instances, and second operations were useless in 14 of 21 cases.

Gastroenterology 16:162-171, 1950.

Lobectomy and Concomitant Thoracoplasty

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HARRY P. HARPER, M.D.*
Veterans Administration Hospital, Livermore, Calif.

HYPEREXPANSION of remaining pulmonary tissue after resection for tuberculosis is undesirable and thoracoplasty is often performed several weeks after upper lobe lobectomy or pneumonectomy to prevent overdistention.

Paul C. Samson, M.D., David J. Dugan, M.D., and Harry P. Harper, M.D., believe that upper lobe lobectomy and thoracoplasty may be done in one operation without complications or undue increase in operative hazard. The addition of thoracoplasty increases the length of the operation by only about sixteen minutes.

The combined procedure allows ablation of the primary tuberculous focus at once and prevents even brief overexpansion of the remaining lobe, which may still be diseased. Better vital capacity usually results from the dual lobectomy-thoracoplasty procedure than from a thoracoplasty sufficient to control the disease, and subsequent deformity is usually less than when the operations are done separately. Of importance psychologically and economically, the patient has only one operation.

Patients with chronic tuberculosis who have tension cavities, tuberculomas, inspissated cavities, lobar or segmental bronchial stenosis, or secondary pyogenic infections, such as abscess or clinical bronchiectasis, benefiting from nonsurgical collapse regimen and sanatorium care are good candidates for the combined operation. However, cavities well forward in the anterior segments of the upper lobe, in the middle lobe, or in the lingula are difficult to close with thoracoplasty.

Para-aminosalicylic acid, 12 gm. daily, is given for approximately a month before surgery and, if the bacilli are sensitive to streptomycin, 1 gm. is administered daily for a week before surgery.

The patient is placed in the lateral recumbent position with the upper arm retracted well forward and cephalad. The incision is started halfway between the scapula and the spine, opposite the second transverse process, is hooked slightly around the inferior angle of the scapula, and is carried anteriorly along the fifth rib to the midclavicular line. The muscles are divided in the line of the incision, and most of the fifth rib is resected laterally from the transverse process. The upper lobe is removed by individual ligation technic, and the remaining lobe or lobes are freed from binding

* Upper lobe lobectomy and concomitant thoracoplasty in pulmonary tuberculosis. California Med. 73:547-549, 1950.

adhesions and from the diaphragm to permit adequate expansion. All air leaks are closed.

At the conclusion of the lobectomy, if the condition of the patient is satisfactory, extrapleural thoracoplasty is done. The fourth rib is removed to the anterior axillary line, the third to the midclavicular line, and the second to the midclavicular line or cartilage. The periosteum is peeled from the under surface of the first rib, and the parietal pleura is separated from the inner edge and dropped from the cupola of the thorax by extrapleural separation to a plane roughly paralleling the first sternochondral junction.

Right angle tubes are placed in the second interspace anteriorly and in the eighth interspace posteriorly and are immediately connected with water trap bottles. Then the posterior tube is clamped, and a solution containing 500,000 units of penicillin and 1 gm. of streptomycin is placed in the anterior tube for several hours. The posterior tube is then opened.

Postoperative care is similiar to that for any patient after lobectomy. Streptomycin is continued for about two weeks and PAS for one to four months, depending upon visible disease. Strict bed rest is advisable for six months, but if the process is strictly localized in the lobe removed, graded activities may be started three months after operation.

Wound infection, empyema, and spread or reactivation of the tuberculosis do not occur. If active tuberculosis exists on the contralateral side at the time of surgery, the lesions usually regress steadily.

¶ REGIONAL ENTERITIS of the jejunum may produce symptoms like those of peptic ulcer. Acute pain and tenderness, postprandial distention, nausea, and vomiting develop; distress may be mitigated by a bland diet and antispasmodics. In time the bowel may thicken and form an obstructive mass resembling malignant tumor. In such an instance, radiologic examination after a barium meal revealed a constricting lesion to John B. Gregg, M.D., of Iowa City and Capt. John R. Weisser, M.C., U.S.N., of Great Lakes, Ill. Removal of the involved segment brought permanent relief.

Am. J. Surg. 80:873-882, 1950.

¶ BOWEL ANTISEPSIS before surgery is effectively achieved with terramycin. Using either the hydrochloride or the less soluble amphoteric form, Joseph M. Di Caprio, M.D., and Lowell A. Rantz, M.D., of Stanford University, San Francisco, virtually eliminate the normal aerobic flora within forty-eight hours. Oral doses of 3 gm. are given daily, or 750 mg. every six hours. Epigastric burning or heartburn, anorexia, nausea, and vomiting may occur but do not interfere with a short course of therapy.

Arch. Int. Med. 86:649-657, 1950.

Endometriosis of the Intestine

BENTLEY P. COLCOCK, M.D., AND TIMOTHY A. LAMPHIER, M.D.*
Lahey Clinic, Boston

INVOLVEMENT of the large or small bowel, eventually producing some form of intestinal obstruction, frequently occurs with endometriosis, one of the most common pelvic diseases of women.

In the gastrointestinal tract, the site of predilection is the sigmoid colon, where the disease often simulates carcinoma. The defect demonstrable by barium enema may also resemble cancer and even at operation the differentiation may prove difficult. Endometriosis of the small intestine usually involves the terminal ileum and may be mistaken for small bowel obstruction or acute appendicitis.

Of 213 patients operated upon for endometriosis at the Lahey Clinic since 1937, Bentley P. Colcock, M.D., and Timothy A. Lamphier, M.D., found that 39 or 18.3% had intestinal involvement, 14 with actual narrowing or obstruction of the bowel. The following report is based on a study of these 14 patients.

The left ovary was more frequently involved than the right, in a ratio of approximately 3 to 2. Although the average age was about 40 years, 2 patients were over 65, indicating the occurrence of the disease beyond the menopausal age, when carcinoma of the colon must always be considered.

Women with endometriosis frequently are sterile or relatively infertile. The principal symptom is cramplike abdominal pain, usually in the lower abdomen, often coincident with or aggravated by menstruation. Of the 14 women, 9 were severely constipated, and although only 2 had complete bowel obstruction, the others had partial or intermittent blockage.

The abdomens were distended in 5 cases and 5 patients had lost about 16 lb. each. Almost all the women had pelvic signs consistent with endometriosis, such as induration, tenderness, and nodules in the cul-de-sac, with or without palpable ovarian masses.

Subject to monthly estrogenic stimulus, the endometrial implants in the bowel wall proliferate, start secondary fibrosis in the surrounding tissue, and eventually distort and constrict the bowel lumen. This process is frequently discovered by pelvic examination as firm adhesion of the posterior surface of the cervix with the anterior surface of the rectal ampulla. Because of the large caliber of the bowel at this point, however, obstruction is rare. The rectosigmoid or the sigmoid may be involved by direct extension of endometriosis from the left ovary or by a separate, distinct endometrioma.

Helpful in differentiating the condition from carcinoma are the long

* Endometriosis of the large and small intestine. Surgery 28:997-1004, 1950.

duration of symptoms, lack of blood in the stools, results of pelvic examination, and the fact that the lesion rarely penetrates the bowel mucosa.

Treatment must be planned for the individual. Once the disease affects the small or large bowel, the management is always surgical, the procedure being determined by the age of the patient and the extent of the endometrial implantation in the bowel, ovaries, and pelvis. Since recurrence is common if the ovaries are not removed, the possibility of a second operation must be balanced against the inexpedience of an artificial menopause.

When the constriction is sufficient to require resection of the bowel and frozen sections show no cancer, local resection may be performed.

All the patients treated by total ovariectomy have remained well and even conservative surgical treatment of endometriosis in general has been surprisingly successful.

Necrotizing Arteritis of the Appendix

BENJAMIN S. GORDON, M.D.*

SYMPTOMS referable to the gastrointestinal tract usually predominate with periarteritis nodosa, but not many cases are described in which a vascular lesion in the appendix is the sole manifestation.

Benjamin S. Gordon, M.D., of the Veterans Administration Hospital, Bronx, N.Y., reports 4 such cases in a series of 211 appendectomies performed for supposedly recurrent or chronic appendicitis. The 4 patients had no hypertension, uremia, or appreciable eosinophilia. Although no obvious allergic etiologic factors were noted, presumably the lesion is an allergic manifestation, since identical vascular lesions are associated with allergic states.

The appendixes were grossly normal, with microscopic arterial changes typical of periarteritis nodosa. No ova or parasites were found nor evidence of disease in other organs. Microscopically, acute necrotizing arteritis with or without arteriolitis was found. Fibrinoid necrosis of the media of the vessel with surrounding edema and inflammatory infiltration of the adventitia was observed, not extending into the muscularis or mucosa of the appendix. The appearance of the vessels was indistinguishable from that with periarteritis nodosa.

Local symptoms disappeared following the appendectomies and have not recurred. No further evidence of generalized arterial disease has appeared.

Although all patients were men, a similar lesion is found in the appendixes and in the fallopian tubes of women.

* Necrotizing arteritis of the appendix. Arch. Surg. 62:92-101, 1951.

Surgery for Peripheral Vascular Disease

GEZA DE TAKATS, M.D.*
University of Illinois, Chicago

Occlusion of peripheral vessels by embolism, thromboangiitis obliterans, and arteriosclerosis is often released by operation.

Both limb and life may be saved by prompt removal of a clot, sympathectomy, or amputation, but expert judgment and technic are required, declares Geza de Takats, M.D.

Acute arterial embolism can be expected with fibrillation of a rheumatic heart, coronary occlusion, or subacute bacterial endocarditis. A warning symptom, such as small showers of emboli, may precede major disturbances and should be noted.

Small clots may produce numbness or tingling or differences of color, temperature, or pulse in symmetric limbs. To prevent massive embolization in such cases, heparin should be administered subcutaneously for at least two weeks.

A second type of embolus obliterates the brachial or femoral pulse by reflex vasoconstriction. Treatment should be started at home with 50 mg. of heparin injected intravenously every three hours. Immediate hospitalization is ordered, and after entry the clotting time is kept between sixteen and twenty minutes.

Paravertebral sympathetic blockade is done, and 30-mg. doses of papaverine are given by artery. If the condition does not improve, embolectomy is done under local or spinal anesthesia.

Thromboangiitis obliterans necessitates absolute bed rest in the acute phase, with sodium thiosulfate therapy and roentgen irradiation of perivascular lymphatics. Smoking must be stopped at once.

When the attack subsides, paravertebral sympathetic blockade is done as a trial before sympathectomy. Nerve section is most helpful with obstruction at the femoral or popliteal level and contraindicated when both major and terminal vessels are affected.

Vascular sclerosis of the legs is not decreased by lumbar sympathectomy, but vasoconstriction is abolished and circulation improved.

The operation should not be attempted unless hypertension is only moderate, with slight changes in the brain, heart, and kidneys. Sympathectomy may benefit patients whose feet are pulseless and painful after walking but who have no pain when resting and whose vessels dilate with preliminary nerve block.

Neurosurgery is useless or harmful with ulceration, gangrene, continuous pain, and osteoporosis.

Diabetic sclerosis may appear worse than is actually the case, owing to

* Recent advances in the surgical treatment of peripheral vascular disease. M. Ann. District of Columbia 20:9-13, 58, 1951.

capillary fragility and neuropathy. Rutin and vitamin B_{12} should be given and sympathectomy done with great care to prevent inflammatory necrosis.

PROCEDURES

Bilateral sympathectomy is the rule, except for arterial embolism, since both extremities are invariably affected by peripheral vascular disease, even if one limb is symptomless. Operation is done in one stage or in two sessions a week apart.

Amputation should be done without delay when tissues become infected, gangrenous, and intractably painful.

Ulcerated fingers or toes are removed with circular skin incisions, elimination of flaps, good lymph drainage, and little or no suturing. On the fourth or fifth day after operation, the wound is closed under pentothal anesthesia.

The popular transmetatarsal amputation is suitable for diabetic patients with anesthetic toes and ulcers. Sympathectomy is also done, and 1 to 5 toes may be resected.

If toes are foul and gangrenous, the leg is amputated 6 or 7 in. below the knee. The bone is divided 3 in. above the circular skin incision, calf muscles are removed, and the skin is closed loosely or left open for a few days.

Above the knee a modified Callander procedure is employed, unless tissue is badly infected and gangrenous, when a supracondylar or midthigh guillotine amputation is safer. In all major resections, the common femoral vein is ligated to prevent systemic embolism from adductor thrombosis of the thigh.

¶ EARLY SYPHILIS responds promptly to four weekly injections of procaine penicillin in oil with aluminum monostearate. William C. Buschemeyer, M.D., Adolph B. Loveman, M.D., and Fred B. Zaugg, M.D., give 300,000 units per dose. Effects on seronegative or seropositive primary and secondary infection compare favorably with those of other reported series. In 102 cases observed at the University of Louisville, Ky., nearly 95% of patients became symptom free, and 89% recovered serologically.

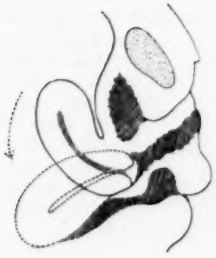
Am. J. Syph., Gonor. & Ven. Dis. 35:67-71, 1951.

¶ ORAL PENICILLIN for gonorrhea can be reduced in dosage if given with sulfonamide in a buffered mixture. At Louisiana State University, New Orleans, 500,000 units of the former administered with 16 gm. of the latter in five days cured acute gonorrheal urethritis in 22 of 23 cases. Philip B. Johnson, M.D., John H. Seabury, M.D., and David M. Dumville, M.D., combined 0.5 gm. each of microcrystalline sulfadiazine and sulfamerazine with 2 gm. of sodium citrate per 10 cc. of an aromatic vegetable gum vehicle.

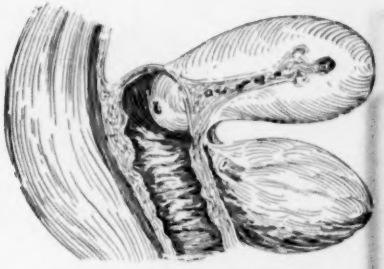
Am. J. Syph., Gonor. & Ven. Dis. 35:83-87, 1951.

Uterine Curettage

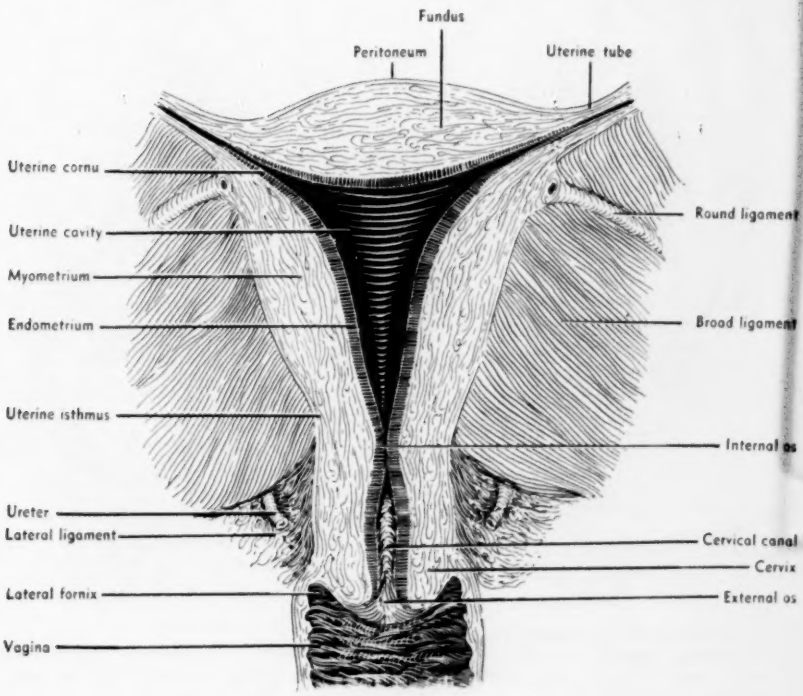
F. M. AL AKL, M.D.
Kings County Hospital, New York



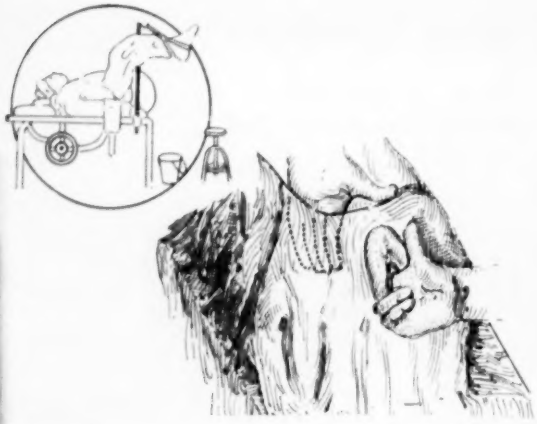
Variations in position of uterus



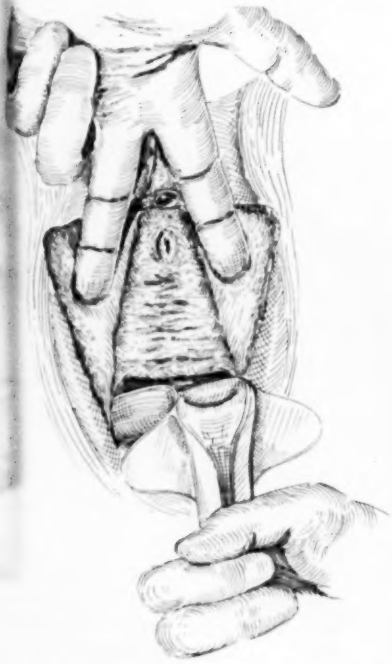
Relationships of uterus



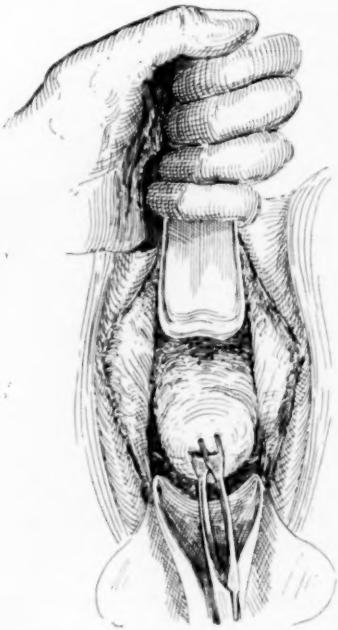
KEEP THIS PICTURE IN MIND



1. Place patient in lithotomy position, buttocks extending over edge of table. Scrub shaved vulva and vaginal cavity. Paint and drape field; check pelvic organs and determine size and position of uterus by careful bimanual examination.

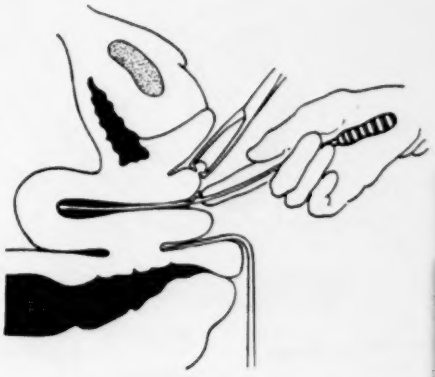


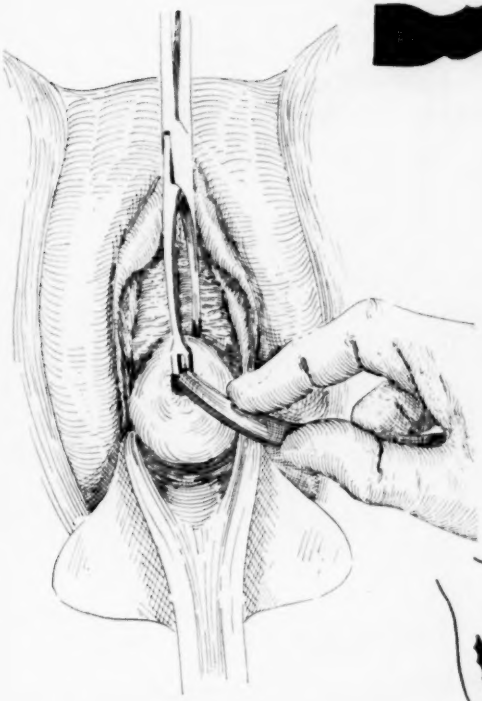
2. Adjust stool to proper level and sit down. Spread introitus open with two fingers and introduce weighted speculum.



3. Retract the anterior vaginal wall and grasp anterior lip of cervix with tenaculum.

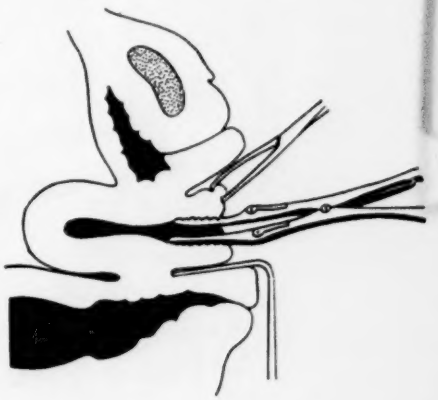
4. Apply gentle traction to tenaculum, then carefully introduce uterine sound through external os, cervical canal, and past internal os to fundus. Withdraw sound and determine depth of uterine canal.

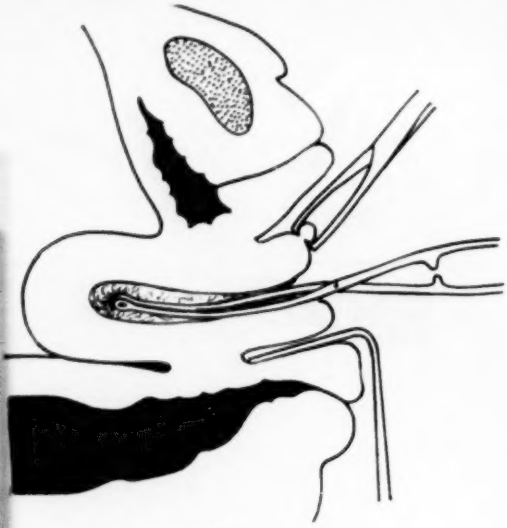




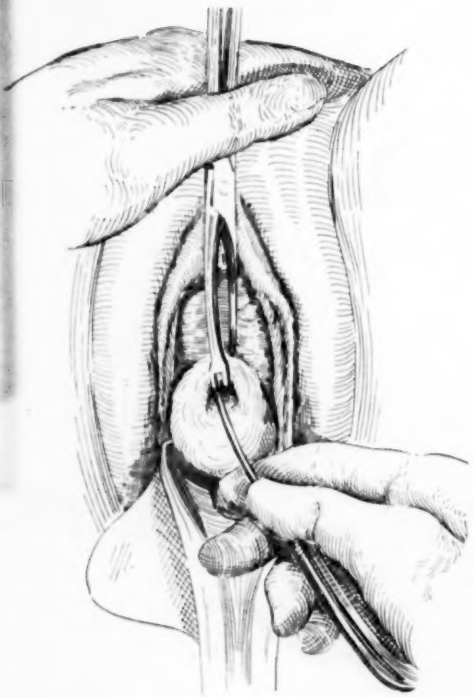
5. Introduce the smallest Hegar sound into external os and along cervical canal up to guard. Repeat with consecutively larger sounds.

6. Change to Goodall's dilator if necessary and, by a steady grip, stretch the cervix in the transverse, oblique, and vertical planes until the cervical canal is adequately dilated.





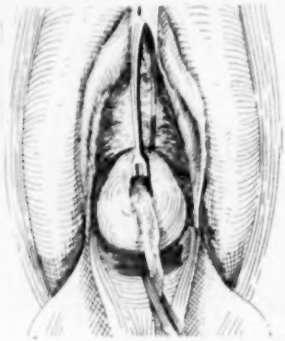
7. Introduce a placental forceps and empty uterine cavity of loose membranes when present.



8. Steady the left hand holding tenaculum by resting fingers over pubes. Introduce curette, tip forward, past cervical canal and into uterine cavity. Curette endometrium from fundus downward with firm, overlapping strokes.

9. Continue scraping endometrium by rotating the vertical strokes of the curette clockwise until the transmitted "grating sensation" signifies adequate endometrial denudation. Redilate internal os if contracted, then change to small curette and clean both cornua.

10. If bleeding ensues, clean vaginal cavity of clots, then pack uterine cavity with gauze strip to stimulate uterine contraction and remove adherent debris.



11. Pull out tape and repeat packing if necessary. Remove the tenaculum and speculum. Reposit uterus bimanually. Wipe vulva clean and apply sanitary pad.

NOTES

Uterine curettage is among the more common procedures, yet the operation, although simple, is not without danger even in experienced hands. Cautious manipulation and gentle handling should always be the rule.

The internal os is a frequently stenosed structure and, particularly in nullipara, requires patience to dilate. If the small sound does not readily pass through the internal os, the anterior cervical canal may be dilated first; ultimately the internal os gives way. Added traction on the cervix may straighten out a flexed uterus and aid in the introduction of the dilator.

Some operators use Hegar's sounds exclusively for dilating the cervical canal, others prefer the Goodall dilator. A stenosed cervix may not admit a beak dilator, hence dilation is begun with the small sound. Once the cervical canal is sufficiently enlarged, the beak dilator may be employed to complete the dilatation. Both instruments can be damaging. If the sound is forcibly introduced, the tenaculum may tear off the lip of the cervix. If the dilator is used forcefully, the cervix may be lacerated. In general, sounds may suffice to dilate gravid cervices, while the more resistant nulliparous cervix may require the glove-stretcher type of dilator. Whichever type of dilator is employed, this step of the procedure must be performed slowly but firmly in order to avoid damage to the cervix.

In nullipara, a medium-sized sharp curette is usually employed to scrape the uterus, and the small size to clean the cornual recesses. In the first month of pregnancy a sharp curette is also employed. In the second month, the use of a dull curette followed by a large sized sharp curette is recommended. After two months, only a dull curette may be used.

In a slender relaxed multipara, the ball of the thumb alone may be applied to the pubes while the fingers are extended over the hypogastrium to grasp and immobilize the fundus. Thus the uterus may be curetted while the fundus rests in the palm of the operator's hand.

Radical Hysterectomy for Cervical Cancer

GRAY H. TWOMBLY, M.D.*
Columbia University, New York City

SURGERY may never achieve as many definitive cures of cancer of the cervix as does skillful and well-administered roentgen-ray and radium therapy, but some patients can be saved by no other means, especially when an early tumor is not satisfactorily affected by radiotherapy.

Gray H. Twombly, M.D., believes that gentle, unhurried, complete dissection of the lymph nodes draining the cervix, little cutting across the lymphatics or direct extensions from the tumor toward the nodes, and avoidance of squeezing and kneading of the cancer are essential to the success of radical hysterectomy for carcinoma of the cervix.

The operation is not advisable for obese patients, since a satisfactory lymph node dissection may not be possible when the walls of the pelvis are heavily coated with fat and when exposure is inadequate. Although old age is not a contraindication, patients with severe hypertension or cardiac decompensation do not tolerate the prolonged surgery required. The ideal case is the thin patient with a League of Nations stage I or II lesion.

Investigation of the genitourinary tract is the most important preoperative study. Radical hysterectomy is not suitable if cystoscopic examination indicates that the tumor has invaded the base of the bladder or if partial or complete ureteral obstruction is shown by intravenous pyelograms. Cystometric examination will give values necessary for treatment of the common postoperative complications—difficulty in voiding and large residual urine. Nonprotein nitrogen determinations should be done to estimate adequacy of kidney function.

Rectal digital palpation and, occasionally, proctoscopic examination give some indication of involvement of the rectal wall by the carcinoma.

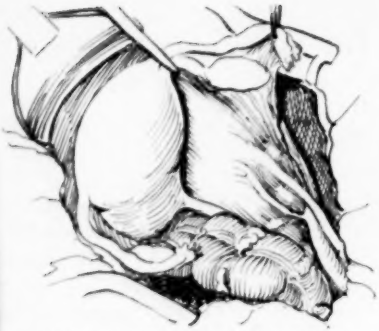
A chest roentgenogram, electrocardiogram, prothrombin time, blood count and, particularly, a determination of the blood volume are important in determining the patient's general condition.

The patient is placed in moderate Trendelenburg position. A midline incision is made from symphysis to a few centimeters above the umbilicus, and the rectus fascia is divided as in the classical Pfannenstiel incision, but the rectus muscles are cut at insertions on the pubic rami. For a slightly obese patient, a transverse incision through all layers greatly improves exposure.

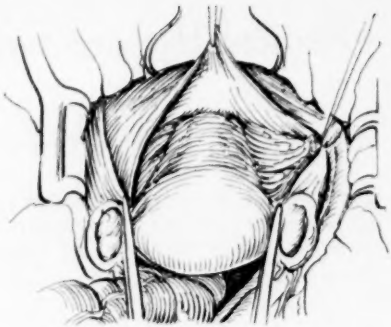
The operation proceeds as demonstrated in the illustrations.

If the operator stands at the patient's left side, the right pelvic nodes are dissected first. After the cervix and vagina have been separated from

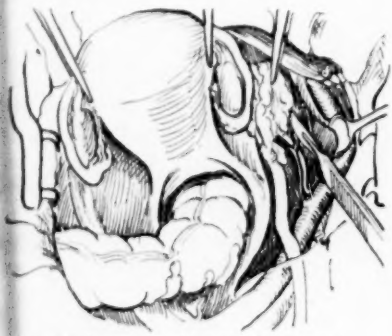
* The technique of radical hysterectomy for carcinoma of the cervix. Cancer 3:975-991, 1950.



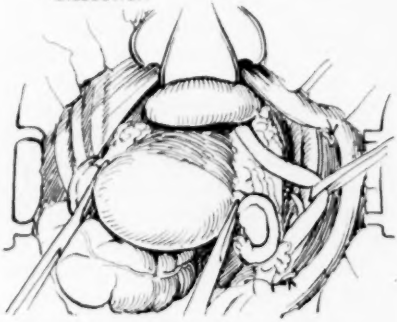
Wound edges are blocked off with wet saline pads



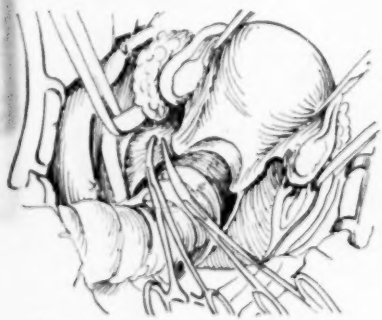
Round ligament has been tied, peritoneum incised, and cervix and trigone separated by blunt dissection



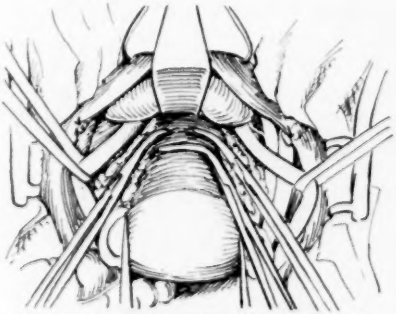
Nodes are dissected around external iliac vessels



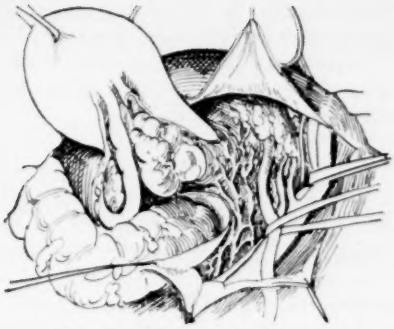
Uterine artery and veins have been ligated and ureter is freed from its bed



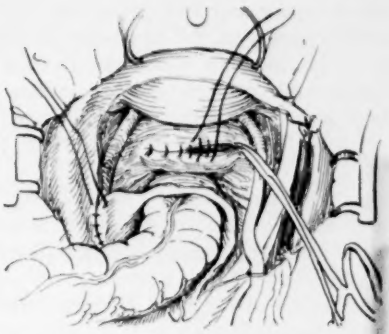
Uterine ligaments are clamped. Posterior peritoneum has been incised.



Uterine and cardinal ligaments are tied; vagina is to be divided between clamps



Site of the inferior hypogastric plexus, branches of which control emptying of bladder



Closure of vagina and peritoneum

the under side of the bladder, the vesical base is examined for extension of the cancer. If no carcinoma is found, the round and infundibulopelvic ligaments are ligated with care to avoid the ureter.

The peritoneum between the two ligaments is incised, and fat and areolar tissue and lymph nodes over the external iliac artery are dissected as a sheet, down to the psoas muscle and the bare artery. An adequate dissection removes all iliac nodes below the bifurcation, the hypogastric nodes, and the nodes in the obturator fossa en bloc, leaving higher nodes undisturbed.

Catheterization of the ureters is not necessary and may cause postoperative hematuria. As little as possible of the blood supply is cut. Gentle retraction with a Penrose drain is preferable to picking the ureter up with forceps. With long Matzenbaum scissors, the ureter is freed down to the trigone of the bladder. Uterine veins are best divided by passing a threaded ligature carrier along the course of the ureter a little at a time and cutting between the subsequent suture and a clamp placed on the uterine side.

The operator then does a similar procedure on the opposite side.

The peritoneum posterior to the uterus is incised, carrying the incision to the extreme bottom of the cul-de-sac, where rectum and vagina meet. The rectum turns at right angles at the floor of the cul-de-sac and should not be perforated.

Continuations of the ureterosacral ligaments on either side of the rectum holding the cervix in the pelvis are divided. The cardinal ligaments are then cut as far laterally as possible toward the pelvic walls. The vaginal tube is divided and the specimen removed. The vagina is closed with interrupted sutures of chromic catgut and the pelvic peritoneum joined with a running suture.

The bladder is innervated by the presacral nerves and the sympathetic cord, which are cut during radical hysterectomy. No method of avoiding

nerve injury and still preserving the radical nature of the operation seems to be conceivable. Consequently, the commonest postoperative complication is paresis of the bladder. Function returns in all cases, although often after a prolonged interval.

Antibiotics are used the first week. The patient is allowed to walk briefly the first postoperative day.

Cancer-like Cervical Lesions of Pregnancy

JOSEPH SCHLEIFSTEIN, M.D.*

A CURIOUS epithelial growth occasionally seen in pregnancy may be mistaken for early cervical carcinoma in situ.

The squamous epithelium undergoes hypertrophy, and basal cells become anaplastic. Stratification disappears, and the loss may involve the entire thickness of the mucosal layer.

Size, shape, and staining of cells may be abnormal. Nuclei are large and hyperchromatic, with frequent mitoses.

Equivocal lesions cannot be differentiated by absolute criteria. True cancer is rarely associated with pregnancy, however, and reports of high incidence are questionable.

In some cases, lesions regress and disappear after delivery. Unfortunately, development is also stimulated by other factors than gestation, and the diagnosis may require long, careful observation.

Joseph Schleifstein, M.D., encountered the problem five times in two years, during examination of 2,500 cervical biopsies at the Albany laboratories of the New York State Department of Health.

Cancer was eventually proved in 2 instances and disproved in 2. In both of the latter, chronic cervicitis was detected, and in 1 instance, papilloma. Outcome of 1 case was unknown.

* Changes in the uterine cervix associated with pregnancy and epidermoid carcinoma in situ. New York State J. Med. 50:2795-2801, 1950.

¶ MENOPAUSAL THERAPY is most satisfactory when estrogen and androgen are combined in small amounts. A convenient oral tablet employed by Robert B. Greenblatt, M.D., and associates at the Medical College of Georgia, Augusta, contains 0.25 mg. of diethylstilbestrol and 5 mg. of methyltestosterone. A daily dose of 3 tablets is usually adequate. Effects were compared with those of each drug alone and a placebo in similar form administered in turn to 102 women for thirty days at a time.

J. Clin. Endocrinol. 10:1547-1558, 1950.

Vascular Factors of Eclamptic Toxemia

PEARL M. ZEEK, M.D., AND N. S. ASSALI, M.D.*
University of Cincinnati

PLACENTAL infarction caused by acute obstructive atherosis of the maternal blood supply is closely related to the toxemia of pregnancy.

Several stages of development were observed by Pearl M. Zeek, M.D., and N. S. Assali, M.D., in material obtained from 232 women in the latter half of pregnancy or the early puerperium. Placentas and fetal membranes were taken immediately after delivery in 193 cases, and uteri were removed surgically in 9. Tissues from 30 autopsies were inspected.

Cases were divided into three categories: 71 patients had toxemia, 18 hypertension only, and 143 neither. Frank toxemia was always associated with high blood pressure that began either before or during gestation, and convulsions occurred in 10 instances.

Part of the normotensive group had no complications, but some had syphilis, placenta previa, uterine sepsis, pyelitis, or other disorders.

Attention was specially directed to the relation between placental infarcts and toxemia and to the vascular source of placental nutrition.

True infarcts are dense, sharply demarcated, round or oval nodules, usually on the maternal aspect and always in contact with the decidua at some point. The common lesion called white infarct is not included.

Histogenesis of infarction is the same in the placenta as elsewhere, but during recovery no fibroblastic proliferation or capillary budding occurs. Healing is shown by calcareous deposits in the coagulated necrotic tissue.

Infarcts were encountered in 83% of toxemic cases, 13% of nontoxic hypertensive type, and 16% with normal blood pressure. Absence of infarcts in 10 toxemic cases may indicate that decidual ischemia precedes infarction.

The placenta is apparently fed by the maternal blood and not by the fetal stream. With acute infarction, related intervillous spaces carrying maternal blood are usually collapsed or thrombosed.

Fetal vessels of non-necrotic cotyledonous septa contain fluid blood, and the only obstructive lesions are acute angiitis and proliferative endarteritis without lipid material. Changes in fetal vessels are associated with aging of the placenta or fetal death in utero, not with infarcts or toxemia.

Acute decidual atherosis occurred in 30% of cases with infarcts and in nearly half of a toxemic series. Such lesions appeared in less than 1 of 50 nontoxemic women, with or without hypertension.

Fatty material is observed in endo-

* Vascular changes in the decidua associated with eclamptogenic toxemia of pregnancy. Am. J. Clin. Path. 20:1099-1109, 1950.

metrial spiral arterioles, in their decidual termini, and deep in the endometrium in venous lakes with both arterial and venous connections. Fat is doubly refractile under polarized light, and takes a deep Sudan stain.

In 1 case with trophoblastic tissue growing into myometrium, vessels in contact with trophoblast were atherotic.

Within a few days after delivery the vascular lesions regress. Fibroblasts proliferate, forming intimal scars and plaques, and eventually the condition resembles ordinary atherosclerosis.

Acute atherosis of decidual vessels obviously underlies placental infarction, and the infarcts are related to eclamptic toxemia. Whether the cause of toxemia is the infarct or decidual ischemia is not clear.

Since vascular lesions are localized, the stimulus may be given by placental tissue assisted by other factors, such as disturbances of endocrine function or lipid metabolism.

Atherosis develops rapidly in pregnant women, is soon shown by toxic effects, and recedes after delivery, thus offering a promising field of investigation of the whole problem of arteriosclerosis.

Age of the Menarche

DAGMAR C. WILSON, M.D., AND IAN SUTHERLAND, PH.D.*

In the south of England, half the girls can be expected to menstruate by the age of 13½ years.

Only 1 girl in 100 will begin before the age of 10 years and 9 months, and only 1 in 100 after the age of 16 years and 3 months. Time of onset is not related to height and weight.

Average age of the menarche was determined by probit analysis, an accurate statistical method that requires only two items of information from each girl, her age and whether her periods have started. The method is useful for surveys, since the subject's unreliable memory of time of onset is not involved.

Data from nearly 3,000 schoolgirls from 9 to 18 years old were compiled by Dagmar C. Wilson, M.D., of the University of Oxford and Ian Sutherland, Ph.D., of the Institute of Social Medicine, Oxford. In addition, serial height and weight records for 289 girls were obtained from boarding schools.

Between 13 and 17 years, height increases with practically no relation to sexual maturation. But body build, measured as height divided by the cube root of weight, develops independently of age for at least two years after the menarche. During this time girls become heavier for their height.

* Further observations on the age of the menarche. Brit. M. J. 4684:862-866, 1950.

Dryness of the Mouth

HERMAN V. ALLINGTON, M.D.*
Oakland, Calif.

SINCE salivation is affected by changes in many if not all body systems, dry mouth may result from a number of factors.

The condition alone, though distressing, does not preclude fairly good general health. The idiopathic state known as Sjögren's syndrome, however, involves mucous membranes of the eye and other regions and is often complicated by chronic rheumatoid arthritis.

Sjögren's syndrome usually affects women, starting during or after the climacteric. Except for palliative measures, treatment is rarely helpful, reports Herman V. Allington, M.D., though testosterone was apparently beneficial in 1 case.

Healthy salivary glands will secrete small amounts of serous and mucoid fluids continuously. In testing function of glands, a lump of sugar is held quietly under the tongue. The sugar is dissolved in about fifteen minutes by young people, in twenty to twenty-five by older persons, and in thirty by the aged.

When flow is moderately reduced, mucous membranes may appear normal, but saliva is sticky, frothy, and hard to expectorate. The tongue burns, and liquids must be sipped frequently.

With severe deficiency, the mouth is painful. Surfaces may be smooth, pale, and semitranslucent, or beefy red and sore. The tongue is sometimes fissured, scaling, and crusted. Teeth decay rapidly, and dentures are uncomfortable.

Oral dryness may occur without obvious lesions, as in mouth breathers or constant talkers. Secretion can be inhibited by pain, mental concentration, and emotions such as fear, disgust, and embarrassment. Flow is reduced in early schizophrenia, the low phase of manic depression, conversion hysteria, psychasthenia, and senility.

The lips and mouth are parched after hemorrhage, profuse sweating, diarrhea, or vomiting. Desiccation may be noted with liver and kidney ailments or cardiac decompensation.

Salivary and lacrimal glands are unfavorably affected by a poor diet. Transient aptyalism is brought on by loss of vitamin A during general anesthesia or infection, and also by iron-deficiency anemia and sprue.

Other factors are drugs, such as the opium derivatives and atropine, central nervous lesions interrupting secretory pathways, and toxic conditions, including botulism and zinc poisoning.

Tumors of the salivary glands, obstructive stone, or acute infection may produce dryness of the mouth. In some cases surgical removal of the glands or damage from roentgen or radium therapy is responsible.

* Dryness of the mouth. Arch. Dermat. & Syph. 62:829-850, 1950.

The organs of salivation may be congenitally absent or defective. Salivary secretion may be greatly reduced by hereditary ectodermal dysplasia.

The sicca syndrome is perhaps caused by a hormone deficiency, although replacement therapy is only at times successful. Xerostoma with varying degrees of conjunctivitis and keratitis may accompany dryness and atrophy of the nose, throat, stomach, or even the vulva and vagina.

However, lesions of mucous membranes are only part of the general disorder. Many patients are pale, thin, asthenic, and prematurely aged, with fever, rapid sedimentation rate, anemia, lymphocytosis, and impaired sugar tolerance.

Treatment of salivary deficiency varies according to the etiology, provided a cause is known. Oral dryness with febrile diseases, diabetes, or pernicious anemia is commonly relieved by treatment of the primary disorder.

In other cases, saliva may be increased by pilocarpine and similar autonomic stimulants. During pilocarpine or physostigmine therapy, slight acidosis should be maintained by reduction of alkali in the diet and the administration of ammonium chloride.

Testosterone propionate may be injected intramuscularly in doses of 10 mg. three times a week. Estrogens may give relief in some cases. In others, psychotherapy or procaine block of the superior cervical ganglion may be tried.

¶ USEFUL OINTMENT BASE for water-in-oil emulsions employed in dermatology is sorbitan sesquioleate available as Polysorb. At the University of Rochester, N.Y., Polysorb in combination with each of the commonly used dermatologic drugs was applied to the skin of allergic patients. Samuel R. Perrin, M.D., and Alfred Halpern, M.D., observed no trace of irritation nor did sensitization develop during numerous patch tests. The absorption base was found to be nonionic, strongly hydrophilic, and easily combined with drugs.

J. Invest. Dermat. 16:7-18, 1951.

¶ PITYRIASIS ROSEA may respond rapidly to ultraviolet therapy. The first treatment often reduces itching and the pale red patches with fawn-colored centers fade. J. Walch, M.D., of Zurich, Switzerland, applies radiation from a distance of 1 meter every second or third day. The exposure time at the beginning is one minute. Local treatment is not used, except for boracic ointment, which reduces the discomfort connected with desquamation for patients who have sensitive skins. Ultraviolet irradiation is preferred to treatment with bismuth because injections are not required.

Dermatologica 101:243, 1950.

Treatment of Infected Pilonidal Cysts

JOHN H. KORB, M.D.*
U.S. Navy

IMPLANTATION of pieces of solid silver nitrate in the sac of an infected pilonidal cyst is a simple technic for eradication.

The procedure described by Capt. John H. Korb, M.C., U.S. Navy, may be done in the dispensary and prevents extension of infection because definitive treatment is started as soon as the patient is seen. The period of healing is short since little healthy tissue is lost. The patient may be treated as an out-patient, using the open packing method.

The sacrococcygeal area and buttocks are shaved and surgically prepared. The skin over the cyst and sinuses and around the openings is injected intradermally with 1% procaine hydrochloride and adrenalin. An incision is made through the skin 2 mm. cephalad to the sinus opening and continued upward 2 cm., then, with a probe for a guide, to the point where coalescence occurs with another sinus or with a cyst sac. Usually, the cephalad sinus is opened first, then each successive caudad sinus.

The incisions are complete only when the glistening band lining each sinus can be traced from the skin to the cyst sac. The incision in the skin is extended at least 5 mm. beyond the cephalad and caudad ends of the cyst sac. All purulent contents are evacuated and gross gelatinous material and hair are wiped away. The sacs are carefully probed for deep pockets or extensions.

A sponge soaked with a saturated solution of sodium chloride is placed between the buttocks at the caudad end of the incision to absorb and neutralize any silver nitrate dissolved in body fluids overflowing the area. Solid pieces of silver nitrate, weighing 0.2 to 0.3 gm. each, are implanted 1 or 2 mm. apart as deeply as possible in the gelatinous material and 2 or 3 mm. apart in the pockets, the extensions, and the cyst sac. From 1.5 to 4 gm. of the solid silver nitrate is necessary, depending on the size and configuration of the cyst. The material dissolves in twenty to thirty minutes into a black tarry mass, and a dry dressing is placed over the area.

The patient is detained for four hours, but may be up and about as desired. At the end of that period, if the patient proves emotionally unstable, hospital admission is advisable. However, most patients return to work immediately. In either case, a petroleum jelly dressing is applied over the operative area.

Hot sitz baths, inspection of the cavity, and open packing with petroleum jelly dressings are performed daily. The cyst sac loosens in two or three days and is carefully dissected from the skin edge and re-

* Infected pilonidal cysts: a simplified method of treatment. Mil. Surgeon 108:29-34, 1951.

moved. Since the action of the silver nitrate rarely penetrates more than 1 mm., further implantation may be necessary to destroy the remaining thick and projecting portions of the sac. All unhealthy tissue must be removed.

Because of the shallow penetration of the silver nitrate, little sound tissue is destroyed. The healing time is usually about twenty-five days and the scars are narrow, freely movable, and insensitive.

Less than 25% of patients have enough pain from the procedure to require analgesics. No antibiotics are necessary, probably because the silver nitrate destroys the bacteria in the cyst cavity and because the surrounding tissues are not punctured or traumatized to allow direct access of the bacteria into the tissues. With the open pack dressing, drainage is always free.

No recurrences, complications, or sequelae have been seen.

Myomatous Tumors of the Rectum

PHILIP A. ANDERSON, M.D., MALCOLM B. DOCKERTY, M.D., AND LOUIS A. BUIE, M.D.*

SMOOTH-MUSCLE tumors of the rectum are extremely rare, but one-half of them are malignant.

A review of records of 10 cases each of leiomyoma and leiomyosarcoma from the files of the Mayo Clinic, Rochester, Minn., between 1911 and 1946 is presented by Philip A. Anderson, M.D., Malcolm B. Dockerty, M.D., and Louis A. Buie, M.D. The distinction between benign and malignant smooth-muscle tumors is often very difficult to make.

Leiomyomas are asymptomatic and are usually detected by rectal examination 2 to 4 cm. above the dentate line. The growths are small, the majority being submucosal nodules. Leiomyomas are found chiefly in women, and local excision is adequate therapy.

Leiomyosarcomas, however, occur predominantly among men and are very malignant. Rectal pain is the most common symptom, but gross bleeding, change in bowel habit, anorexia, loss of weight, and weakness may also be noted. The tumors are fairly large and often appear punched out or umbilicated.

As soon as leiomyosarcoma is diagnosed, radical rectal resection should be performed. Irradiation is not effective. The lesions tend to recur locally for a long period of time before eventually metastasizing.

The average survival after the first operation was 5.2 years in the 10 cases observed.

* Myomatous tumors of the rectum (leiomyomas and myosarcomas). Surgery 28:642-650, 1950.

Management of Acute Uremia

FRANKLIN FARMAN, M.D., AND HAROLD L. BRISKIN, M.D.
Robert S. Fox Urological Foundation, Whittier, Calif.

KENNETH A. LEMON, M.D.*
Los Angeles

TREATMENT of acute renal insufficiency is based on the concept that the kidney damage may be reversible. Management is directed toward maintenance of water balance, acid-base equilibrium, and nutrition and removal of excessive metabolite products until kidney function is reestablished.

Franklin Farman, M.D., Kenneth A. Lemon, M.D., and Harold L. Briskin, M.D., point out that the mortality from acute renal insufficiency depends somewhat upon the portion of the nephron most severely damaged. Vasospasm of arterioles caused by such conditions as postsurgical shock or concealed hemorrhage affects the glomeruli primarily. The proximal tubules are affected most by nephrotoxic agents, such as heavy metals, or eclampsia. The distal tubules are damaged when blocked by sulfonamide crystals, heme pigments, and interstitial edema.

The mortality rate with acute lesions of the upper tubules is extremely high, nearly 90%. Over 60% of patients with acute uremia from glomeruloarteriolar vasospasm die, and the death rate with lesions of the lower nephron is from 50 to 75%.

The following measures are advocated for management of the acute anuric state:

Early recognition of oliguria—Impaired nephron function should be suspected when the urinary output falls below 600 cc. in twenty-four hours or when no urine is passed for twelve. Excessive vomiting after surgery and prolonged shock and untoward reaction after blood transfusion or abortion or during pregnancy are reasons for careful measurement of the urinary output.

Preservation of blood pressure, blood volume, and hemoglobin levels—Shock will occur during the initial phase of oliguria in many cases.

The restoration of blood pressure and of circulating blood volume may be accomplished by the transfusion of either whole blood or washed red cells. The release of neurogenic influence with morphine or intravenous procaine is frequently beneficial. Determinations of blood urea, sodium, chloride, and carbon dioxide should be instituted and repeated frequently.

Maintenance of water balance—The administration of fluids in quantity sufficient only to replace the fluid loss by respiration, perspiration, vomiting, and feces is satisfactory until the phase of diuresis ensues.

* Urological survey of anuria and oliguria with a guide to treatment. J. Urol. 65:177-184, 1951.

The amount lost by way of lungs and skin is between 600 and 1,000 cc. for twenty-four hours. The excretion from the gastrointestinal tract is measurable.

Fluids are given through an indwelling gastric tube and all vomitus is recovered and returned. The patient should be weighed daily, if possible, to determine fluid loss or gain. During recovery, gradually increasing urinary output should be matched by a corresponding total fluid intake.

Maintenance of electrolyte balance—In the absence of diarrhea and when all vomitus is recovered and returned by tube, little electrolyte loss occurs. Severe acidosis is treated by oral sodium bicarbonate or intravenous 1/6 molar sodium lactate solution or Ringer's solution. Chloride should be quantitatively replaced when diuresis begins.

Removal of toxic metabolites—With severe and prolonged anuria, supplementary measures for the removal of nitrogenous metabolites should be considered. Gastric lavage and intestinal perfusion are the simplest methods and probably should be tried first. Peritoneal dialysis and the externally dialyzing artificial kidney are more elaborate methods and require the continuous attention of an experienced team.

Rational nutrition—A protein-free diet, high in carbohydrate and fat, should be given. The following formula administered daily by continuous drip through the indwelling gastric tube fulfills both fluid and nutritional requirements:

Glucose	400 gm.
Peanut oil	100 gm.
Acacia q.s. to emulsify	
Water to 1 liter	
Vitamins optional	

Renal sympathectomy—Increased renal blood flow may be induced by interruption of renal sympathetic pathways. Temporary denervation may be accomplished through paravertebral or spinal anesthesia, which should be done early, if at all. Renal decapsulation releases sympathetic control and may relieve increased intrarenal pressure. The value of these procedures is controversial.

¶ PHOSPHATE RENAL STONE recurrence rate is reduced by basic aluminum carbonate gel, a product about 35% more effective than other aluminum mixtures. Daily amounts of 80 to 180 cc. are prescribed by Ephraim Shorr, M.D., and Anne C. Carter, M.D., of Cornell University, New York City. Doses are taken one hour after meals and at bedtime. Dietary phosphorus should be limited to 1,200 or 1,300 mg. per day and calcium to 700 mg. Urinary phosphorus is determined often and excretion maintained at 300 mg. daily. Results were favorable in 90% of 36 calculous kidneys among 22 patients. Aluminum carbonate gel favors the formation of insoluble phosphates in the intestinal tract, with consequent reduction in the amount of such substances excreted into the urine.

J.A.M.A. 144:1549-1556, 1950.

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[1]*References on request*

Cutter Laboratories, Berkeley, California.

Diagnosis of Spinal Cord Tumors

FREDERICK P. MOERSCH, M.D., WINCHELL MC K. CRAIG, M.D.
Mayo Clinic, Rochester, Minn.

LEE A. CHRISTOFERSON, M.D.*
Fargo, N.D.

PAIN is the most frequent symptom of spinal cord tumor. If the correct diagnosis is made early, the tumor may be removed before serious, irreparable damage to the spinal cord occurs.

In an attempt to clarify the indications of spinal cord tumors, Frederick P. Moersch, M.D., Winchell McK. Craig, M.D., and Lee A. Christoferson, M.D., studied the records of 37 patients with spinal cord tumors whose initial neurologic examinations were inconclusive. The following data were established:

Pain is the first and chief complaint of practically all patients with tumors of the spinal cord. The pain is often gradual but may be sudden in onset and is described as aching, cramping, tingling, shooting, burning, sharp, or stinging. Exacerbations usually occur with coughing, sneezing, or straining or while the patient is recumbent. Night pain may be so severe that the patient sleeps in a semisitting position.

The location of the pain is related to the site of the tumor. Pain in the back and legs is most frequent with tumors in the lumbar and thoracic regions. Cervical tumors most often produce pain in the shoulder, arm, or neck.

The patient may have other complaints which are not typical but vary from case to case. Weakness of one or both legs, numbness, paresthesia or hypesthesia of the legs or feet, weakness of the arm, or urinary difficulties may be noted.

Neurologic examination is frequently unrevealing at the start of symptoms. Important early signs are limitation of spinal motion and percussion tenderness in the vicinity of the tumor. Lasègue's or Kernig's sign may be positive. Slight muscular weaknesses may be found.

Laboratory examinations are helpful in establishing the diagnosis. Most patients have spinal fluid protein values in excess of 50 mg. per 100 cc., and partial or complete spinal fluid block may be present. Lumbar puncture should be done with caution in cases of suspected spinal cord tumor to prevent herniation of the tumor with compression of the cord causing increased neurologic deficit.

Routine roentgenograms of the spine may give suggestive evidence of the tumor. Roentgenograms and fluoroscopy made after the intrathecal injection of some contrast medium, such as iodized oil or Pantopaque, will establish the presence and location of a spinal cord tumor in most patients with this disease.

* Spinal cord tumors with minimal neurologic findings. Neurology 1:39-47, 1951.

¶ SUBARACHNOID HEMORRHAGE, a rather frequent cause of sudden death, is sometimes wrongly attributed to criminal violence, especially if bleeding begins spontaneously during or after an altercation. Most cases reviewed by Milton Helpern, M.D., Office of the Chief Medical Examiner, New York City, and S. M. Rabson, M.D., of Fort Wayne, Ind., were due to rupture of a saccular aneurysm in late young manhood and middle age. To determine the source, especially if an alleged assailant is under arrest, cerebral arteries should be dissected as soon as the brain is taken from the skull.

Am. J. M. Sc. 220:262-271, 1950.

Tracheotomy in Management of Head Injuries

DEAN H. ECHOLS, M.D., AND ASSOCIATES*

WHEN unconsciousness as the result of head injury is likely to persist more than twenty-four hours, tracheotomy should be performed promptly to maintain efficient aeration of the lungs.

Dean H. Echols, M.D., Raeburn Llewellyn, M.D., Homer D. Kirgis, M.D., and Francisco García-Bengochea, M.D., of Tulane University of Louisiana and Ochsner Foundation Hospital, New Orleans, and Frederick C. Rehfeldt, M.D., of Fort Worth, Tex., point out that many deaths after severe head injury are the result of complications from respiratory obstruction.

Partial respiratory obstruction may raise the intracranial pressure by the following mechanisms:

- Elevation of the intrathoracic pressure
- Vasodilation of the cerebral vessels from increased carbon dioxide content of the blood
- Heightened permeability of the cerebral vascular endothelium from hypoxia
- Augmented bleeding from damaged cerebral vessels encouraged by intracranial venous congestion and vasodilation

Elevation of the intracranial pressure depresses the medullary respiratory center, resulting in further decrease in aeration of the lungs.

This cycle may be interrupted and additional damage to traumatized brain tissue by hypoxia and pressure may be prevented by the maintenence of an adequate airway through tracheotomy. Other methods are inadequate or difficult to maintain when patients have serious respiratory problems. Instant and repeated tracheal suction and the administration of oxygen are easily accomplished through the tracheotomy tube. Feeding by stomach tube is safe.

* Tracheotomy in the management of severe head injuries. Surgery 28:801-811, 1950.

FIBERGLAS REPORTS TO THE PROFESSIONS*

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†*Archer, Vincent W., M. D., et al. Protection against X-ray and Beta Radiation with New Lead-Glass Fabric. Hospital Management, January, 1950, pp. 104—106.*

Fiberglas lead-glass gown described here being worn by an X-ray technician.

* * *

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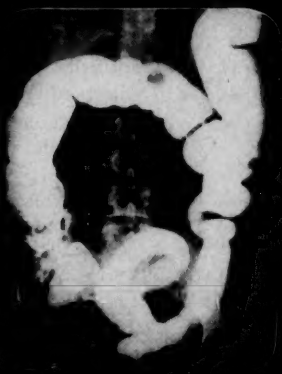

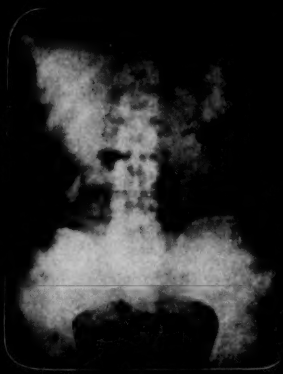

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Causes of Death in Diabetic Children

ELLIOTT P. JOSLIN, M.D., AND JAMES L. WILSON, M.D.*
Harvard University, Boston

THOUGH persons who contract diabetes in childhood live much longer than formerly, they still die prematurely and, usually, unnecessarily.

The future holds greater promise for such patients, since the chief causes of their deaths today—renal disease, tuberculosis, and coma—are either preventable or may be greatly decreased by diligent observation and care, believe Elliott P. Joslin, M.D., and James L. Wilson, M.D., after reviewing the fatalities among diabetic children from 1898 to 1949.

The records of the 2,873 patients who had diabetes before the age of 15 were analyzed. Of these, 472 had died and only 20 were untraced. The average duration of diabetes for the 135 who succumbed in the period 1944-49 exceeded that of those dying in the previous six-year period, 1937-43, by approximately eight years, and the 1944-49 patients were eight years older when they died.

Tuberculosis and coma caused about 20% of the deaths after 1943. Cardiorenal-vascular diseases accounted for 59.3% of the deaths, 51.9% being of renal origin.

The incidence of deaths from diabetic coma dropped steadily from 86% in the pre-insulin era to 9.6% after 1944, while the frequency of cardiorenal-vascular disease was observed to have increased steadily from 0.6 to 59.3%.

Only 2 cases of renal disease were recorded before 1937. Angina pectoris and coronary disease, likewise, did not appear until 1937. Apoplexy was observed just once before 1944 and 3 times since. Only 2 deaths from gangrene were noted.

Tuberculosis—Before the discovery of insulin diabetic children survived for so short a time that none was recognized as dying from tuberculosis until the period 1922-36. This disease was found to account for 11.2% in the 1944-49 period. Of the 135 deaths after 1943, tuberculosis was responsible for 15, all occurring within an average of 13.2 years of onset of diabetes. These patients were all underprivileged children and had not received yearly roentgen examinations. Obviously, they had not been given sufficiently careful observation.

Diabetic coma—After 1943 the fatalities of 12 children, or 8.8% of the total 135, were directly attributable to diabetic coma. The average duration of the disease before the fatal coma was ten years, and the average age at death was 17.9 years. None of the 12 patients was treated at the New England Deaconess Hospital or seen by a member of the staff during the terminal illness.

* Lessons for future treatment from 472 fatalities in diabetic children. Brit. M. J. 4692:1293-1296, 1950.

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Arteriosclerosis—The antemortem records of the patients who died in 1944-49 show that of the 76 cases in which death was attributed primarily to cardiorenal-vascular causes, only 50 originally were recorded as renal, whereas 13 other cases, classed as cardiac deaths on the death certificates, had had severe renal disease for several years before.

The information disclosed by this critical analysis of the fundamental disease of the patient, as contrasted with the reported terminal event on the certificate, is of great significance. Apparently, among diabetic children, the true complication to combat is renal rather than cardiac.

Proteinuria invariably preceded the elevation of blood pressure, thus strongly supporting the thesis that the condition was primarily renal in origin rather than attributable to the onset of essential hypertension.

Most postmortem examinations of children dying with diabetes reveal a mixture of several types of renal pathology, including pyelonephritis, intercapillary glomerulosclerosis, and arteriolosclerotic and arteriosclerotic disease. This finding was strikingly true in the 15 necropsies in this group.

An exception to the general finding was, however, a case in which careful microscopic analysis failed to show evidence of any kidney lesions other than those of chronic glomerulonephritis, despite the fact that before death the patient had the classical symptoms of vascular nephritis and had uremia terminally. In this case, no arteriosclerotic renal changes were evident, although atheromatous changes appeared in the aorta and coronary arteries.

Analysis of the 135 deaths of diabetic children within the last six years shows, above all else, that patients with onset of diabetes in childhood should be observed more closely. Only in this way can needless deaths be avoided.

Continuity of therapy is essential. Chest roentgenograms should be made yearly.

Constant search for evidence of incipient signs of renal disease in children with diabetes must be maintained. Research should be concentrated on the kidney.

¶ BREAST FEEDING for the first six months encourages better facial development throughout infancy and childhood than use of a bottle. Growth of the chewing muscles, mandible, and temporomandibular joint is stimulated by vigorous exercise in a difficult extractive process. Effects of nursing and artificial feeding were contrasted in 327 subjects of all ages by Francis M. Pottenger, Jr., M.D., and Bernard Krohn, M.D., of Monrovia, Calif. Facial growth was measured at the malar prominences of the zygomatic bones and compared with biorbital distance. Steroids found in human milk may be partly responsible for the better facial growth of breast-fed children.

Arch. Pediat. 67:454-461, 1950.

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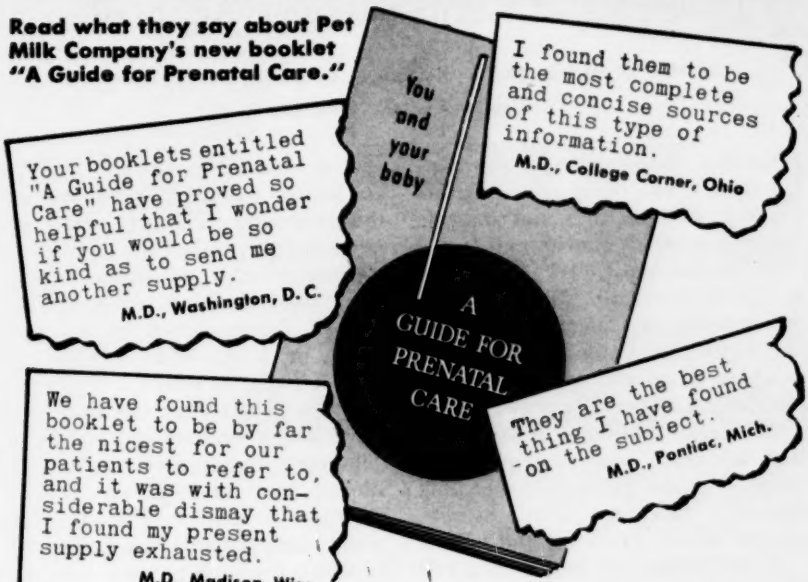

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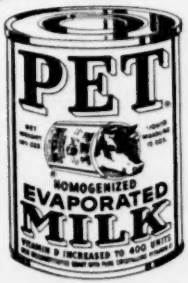

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Diagnosis of Cardiovascular Anomalies

F. MASON SONES, JR., M.D., AND R. E. SCHNECKLOTH, M.D.*
Cleveland Clinic, Cleveland

CAREFUL examination of newborn babies will often reveal cardiovascular abnormalities and indicate the extent of dysfunction.

F. Mason Sones, Jr., M.D., and R. E. Schneckloth, M.D., explain the meaning of common symptoms and signs. Early appraisal may lead to exact diagnosis, prompt medical care, and a lifesaving operation.

The major symptoms of malformation are rapid breathing, persistent cough, frequent pulmonary infection, cyanosis, fainting spells, stridor, growth failure, vomiting, and edema.

If the respiratory rate during rest exceeds 60 per minute, blood flow to the lungs may be reduced by obstruction at the source of the pulmonary artery. However, tachypnea is also a sign of lung engorgement due to myocardial failure, blocked pulmonary vein, or shunt of oxygenated blood to the right heart or pulmonary artery.

Persistent cough often results from pulmonary engorgement and may be attributed to infection. Pneumonitis and bronchitis are abolished by antibiotics, while cough and tachypnea continue.

Cyanosis occurs when systemic venous blood is diverted to the arterial circulation. The many causes are not differentiated by ordinary examination but fall into two groups. Defects that also engorge the lungs are seldom corrected by surgery, but those reducing pulmonary circulation are usually operable.

Syncope and, at times, convulsions may result from pulmonary stenosis. During attacks, cyanosis develops or, if the child is anemic, a grayish pallor is seen.

Stridor occurs when the aortic arch constricts the trachea and esophagus. Thorough investigation and prompt surgery may be required.

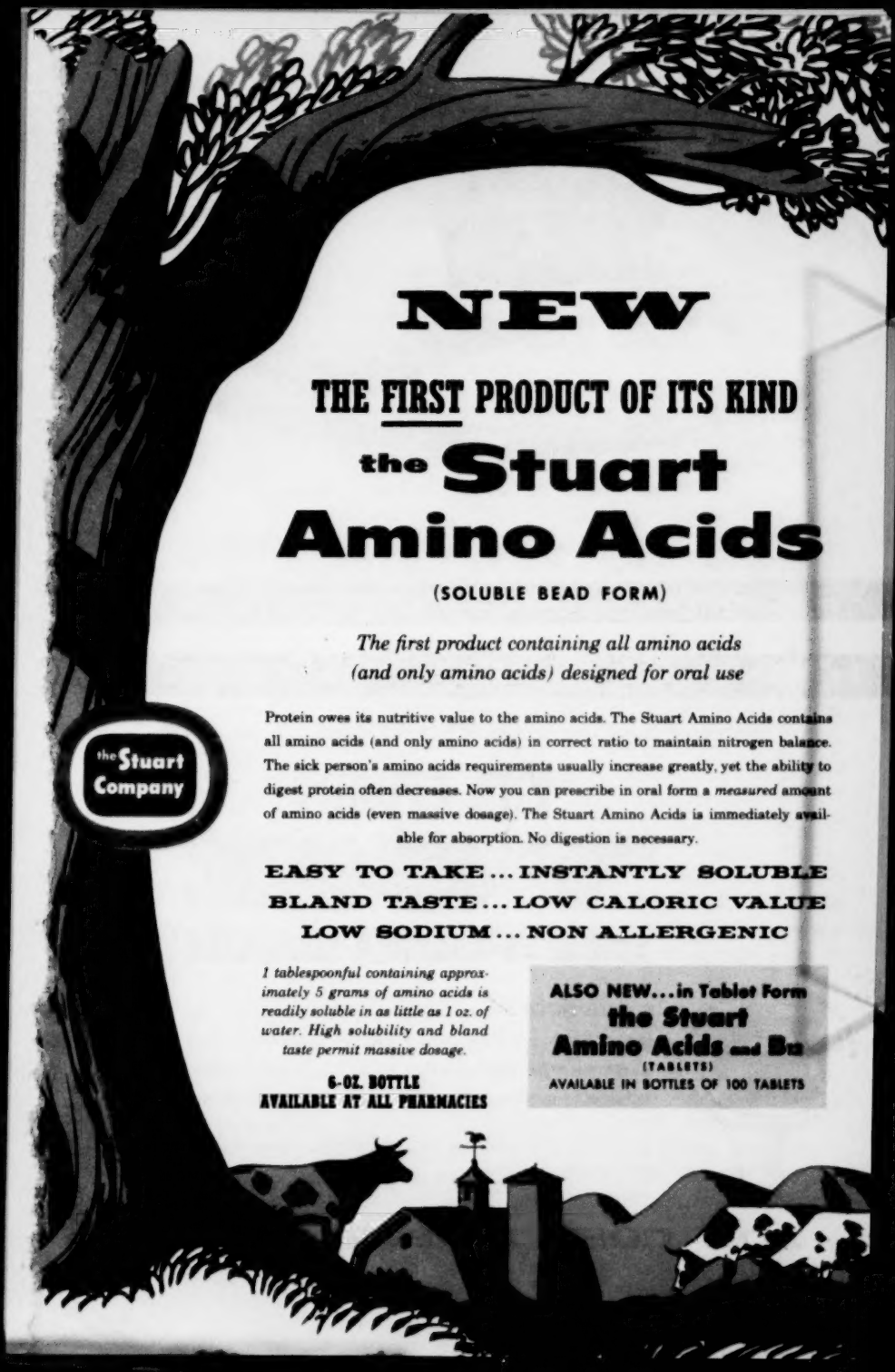
Failure to gain weight affects the noncyanotic patients with large cardiac shunts from left to right. Vomiting may result from partial obstruction of the esophagus or passive visceral congestion. Edema with congestive failure is first seen as periorbital swelling.

Examination of newborn infants should be done in a warm, clean, quiet room within an hour after feeding, when the child is calm. Special attention is paid to respirations, stridor, cyanosis, clubbed fingers, and state of hydration and nutrition.

The stethoscope should be warmed and auscultation done in natural periods of apnea. Heart size is gauged by palpating the apical impulse over the precordium, and beats are counted by sound. To detect cyanosis, crying is induced.

Between the ages of about 5 days

* The appraisal of cardiovascular status in infancy by physical examination. Cleveland Clin. Quart. 18:17-22, 1951.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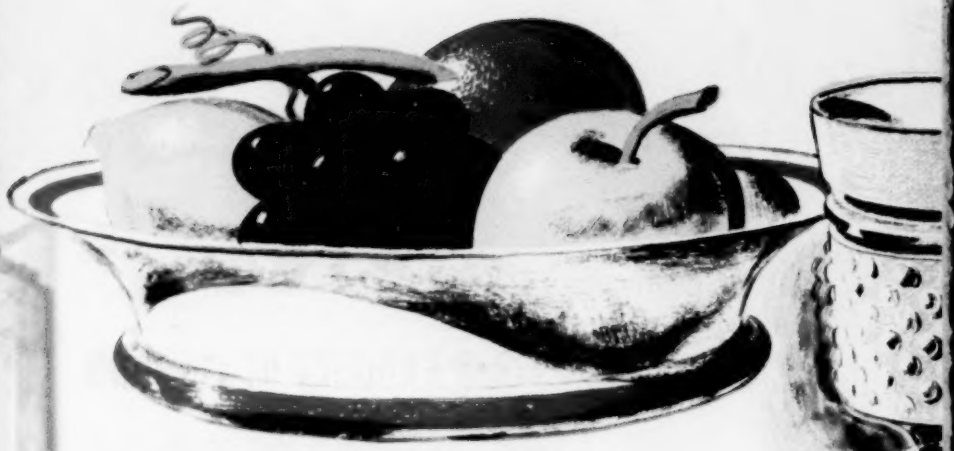

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and 6 or 8 months, a systolic murmur of grade 2 or louder usually means congenital anomaly, although the auscultatory characteristics do not reveal the site or functional importance.

During infancy, diastolic murmurs are rare, but a short, late, rough murmur medial to the cardiac apex without cyanosis may indicate enlarged heart, congested lungs, and myocardial insufficiency.

In older babies, a blowing, high-pitched, early diastolic murmur in the second or third left interspace may arise from severe pulmonary hypertension and pulmonary insufficiency.

A loud prolonged systolic murmur in the same area sometimes indicates patent ductus arteriosus with tetralogy of Fallot.

Truncus arteriosus from a single ventricle produces extreme cyanosis without murmurs.

When both aortic and pulmonary valves are functioning, careful auscultation will detect at least slight reduplication of the second sound. But if a third heart sound in early or middiastole is accentuated, especially if the heart is enlarged, the child may have a ventricular septal defect.

A bulging sternal deformity usually indicates enlargement of the right ventricular outflow tract; if cyanosis also develops, pulmonary blood flow is probably increased. Yet precordial bulge may accompany pulmonary valvular stenosis with intact ventricular septum and reduced pulmonary circulation.

In general, however, tetralogy of Fallot and other anomalies with cyanosis and reduced pulmonary flow are not associated with deformity of the sternum.

Noncyanotic defects with large shunts of arterial blood to the pulmonary circulation also enlarge the pulmonary outflow tract, but smaller lesions do not. Thus the extent of auricular and ventricular septal defects and patent ductus is denoted by presence or absence of the sternal bulge.

Generalized cardiac enlargement or dextrocardia will displace the cardiac apex from normal position in the fourth or fifth interspace at the left midclavicular line.

Fine crackling inspiratory rales over hilar and posterior lung fields result from pulmonary engorgement. Major functional disability is inferred from a noncyanotic lesion, with intracardiac shunt from left to right.

With cyanotic lesions, rales are not heard if pulmonary flow is reduced. Rales can be evaluated only when infection and atelectasis are excluded.

Hepatomegaly and venous distention may show congestive failure months before development of edema, ascites, or pleural effusion. Intrinsic or expansile pulsation of the liver may be due to tricuspid atresia or to pulmonary stenosis with intact ventricular septum and a small auricular septal opening.

With coarctation of the aorta, pulsations are lacking in the abdominal aorta and femoral arteries. But if a patent ductus empties blood from the pulmonary artery into the aorta beyond the occlusion, femoral beats may be felt. In such a case, cyanosis generally affects the legs but not the head and arms.

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Renal Embryoma in Childhood

ROBERT E. GROSS, M.D., AND EDWARD B. D. NEUHAUSER, M.D.*
Children's Hospital, Boston

MIXED tumors of the kidney in infancy and childhood can usually be detected by physical examination and pyelography and are treated by transabdominal nephrectomy and postoperative irradiation of the area.

The renal embryoma, sometimes referred to as Wilms' tumor, is rarely seen after the age of 10 or 12. The structure may consist of any mesodermal derivatives, such as connective tissue, angiomatous formations, smooth or striated muscle, and, occasionally, bone or cartilage. The growths may attain great size, but are usually contained within the intact renal capsule for a long time.

Spherical or oblong, the tumors are smooth or only slightly lobulated. Cystic or hemorrhagic degeneration is frequently found. The kidney substance is compressed and distorted but remains sharply demarcated from the lesion. The renal pelvis is seldom invaded but is usually narrowed, elongated, or otherwise deformed.

The tumor ordinarily does not cause symptoms, the first signs rarely including more than a finding by the child's parent of the large, hard, palpable mass or abdominal distention. Pallor and urinary disturbances are not often encountered, although, when hematuria does occur, an unfavorable course is portended.

A hard mass is found in either upper quadrant and extends well back into the renal fossa, unlike splenic or hepatic enlargements. The smooth contour and unilaterality help differentiate embryomas from neuroblastomas, which have a pebbly surface and a greater tendency to spread across the midline. Hypertension is occasionally seen, and fever occurs with tissue necrosis in the tumor.

An intravenous pyelogram helps delineate the mass with relation to the ipsilateral kidney and determine the presence and condition of the contralateral kidney. With an embryoma, the renal pelvis can usually be visualized either within the shadow of the mass or compressed toward the periphery of the lesion and is apt to be greatly distorted and displaced in any direction except the lateral. Retrograde pyelography may be necessary if the intravenous study is unsatisfactory.

Metastases should be looked for, especially pulmonary involvement. Neuroblastomas more often invade the skeleton, metastasizing to the lungs only late in the disease.

In 96 cases of renal embryomas of children at the Children's Hospital, Robert E. Gross, M.D., and Edward B. D. Neuhauser, M.D., found that the survival rate rose from 14.9% for the 27 cases seen from 1914 through 1930, to 32.2%

* Treatment of mixed tumors of the kidney in childhood. Pediatrics 6:843-852, 1950.

for the 31 patients from 1931 through 1939, and to 47.3% for the 38 instances from 1940 through 1947.

No operative fatalities occurred after 1932, although all the tumors were excised from then on, despite occasional great size. The greater number of cures for the most recent group is largely attributed to the postoperative roentgen irradiation given in practically all cases.

Immediately after surgery, before the patient recovers from the anesthesia, and thereafter daily, deep x-ray exposure is administered in doses of 200 r, alternately through three portals, anteriorly, laterally, and posteriorly, over the tumor bed, to a total of 4,000 to 5,000 r in air. The therapeutic formula is 200-KV, filters of 1 mm. of aluminum and 0.5 mm. of copper, and a target-skin distance of 50 cm., H.V.L. equals 1.05 mm. cu.

Preoperative irradiation over the tumor may shrink the mass and facilitate removal, but delay of surgery increases the chance of metastasis, and liquefaction of the neoplasm enhances the probabilities of malignant cells breaking into the blood stream. All of 4 children who were treated by preoperative radiation, nephrectomy, and postoperative radiation died with metastases.

If no extraabdominal metastases can be found but extensions of tumor are noted in the abdomen at the time of nephrectomy or later, the growths should have massive and repeated treatment with roentgen rays.

With widespread pulmonary metastases, roentgen therapy is of little value although life may be slightly prolonged. Isolated metastases to the lungs should probably be treated intensively and repeatedly, if other important spread cannot be found.

Babies up to 1 year of age have a better outlook than do older subjects. Cures for patients of all ages treated from 1940 through 1947 were 47%, while 80% of the infants who were under 12 months of age recovered.

If a patient survives operation for a year and a half without evidence of recurrence, a permanent cure has probably been attained. Relapse usually is evident within nine months and the majority of deaths occur within a year.

¶ UNIPOLAR CARDIOGRAMS of 100 healthy infants and children have recently been analyzed. Values for the common limb leads, augmented limb leads aV_L, aV_R, and aV_F, and precordial leads V_1 to V_6 were recorded for subjects 8 days to 14 years old at the University of Rochester, N.Y. Paul N. G. Yu, M.D., Howard A. Joos, M.D., and Chris P. Katsampes, M.D., noted essentially the same corrected Q-T interval for both sexes at all ages. Values ranged from 0.365 to 0.424 and averaged 0.405. Q waves often appeared in leads aV_R, aV_F, and V_4 to V_6. T waves are usually inverted in V_1 and V_2, often in V_3, and sometimes in V_4, especially during infancy and early childhood.

Am. Heart J. 41:91-104, 1951.

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Meat for Premature Infants

THOMAS R. C. SISSON, M.D., ANNE F. EMMEL, M.D.,
AND LLOYD J. FILER, JR., PH.D.*
University of Rochester, N.Y.

STRAINED meats now on the market can safely be used as a protein substitute or supplement to milk for premature as well as older infants.

The proteins supplied are 90 to 100% digestible and include all amino acids needed for growth. Meat fat is approximately as well absorbed as that of milk. Unlike milk, however, meat is exceptionally rich in iron. The calcium and phosphorus supplied in strained meat are inadequate; these components must be added in mineral or other form.

To determine the nutritional values, commercially cooked strained veal, pork, lamb, beef, calf heart, and liver were given to 19 premature babies by Thomas R. C. Sisson, M.D., Anne F. Emmel, M.D., and Lloyd J. Filer, Jr., Ph.D.

The intake, excretion, and retention of nitrogen, fat, calcium, phosphorus, and iron were measured. Records were also kept of general health, weight, growth, number and character of stools, hemoglobin level, and total serum protein.

The infants weighed 1,000 to 2,250 gm. at birth, and tests were usually started at weights of 1,700 to 2,000 gm. Ages were 12 to 50 days, and subjects had been gaining for several days on the standard regimen, a half-skimmed milk formula with 10% cane sugar.

The children were divided into three groups according to diets. The 11 boys comprising Group 1 received both the routine milk formula and a modification with meat. Nitrogen, fat, and mineral balance were determined.

Children in Group 2, a girl and 2 boys, were fed like those in Group 1 but only fat absorption was estimated.

Group 3 included 2 boys given the standard regimen and 3 who had a modification of McQuarrie's milk-free formula for allergic children. The milk-free diet contained only meat and olive oil for protein and fat, with calcium gluconate, sodium monohydrogen phosphate, potassium dihydrogen phosphate, cane sugar, and water.

Every diet provided 130 to 140 calories per kilogram daily, with 16 or 17% of calories from protein, 20 to 23% from fat, and the rest from sugar. Each child had only one kind of meat. When added to milk, this supplied one-third of the dietary protein, or about 30 gm. daily.

The vitamin supplement was 5,000 units of A, 1,000 units of D, and 50 mg. of ascorbic acid. For convenience in adding fat to lean meats, liquid milk was replaced by powdered whole and dried half-skimmed milk preparations.

* Meat in the diet of premature infants. Pediatrics 7:89-109, 1951.

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All mixtures were acceptable, and feedings were seldom regurgitated. No gastrointestinal disorder was observed, although stools were rather soft for the first day or two of meat administration. The various combinations produced positive balance and satisfactory weight gain with no evidence of meat sensitivity.

Most infants receiving both meat and milk absorbed slightly less nitrogen from meat. Nitrogen absorption was also lower from the all-meat diets. What was absorbed was sometimes better utilized, however, so that differences tended to cancel.

Since capacity for absorbing fats is much less in premature than in full-term infants, the percentage excreted varied greatly from one subject to another. The fat supplied by meat and olive oil seemed most digestible.

Meat was an excellent source of iron, much needed by all babies and particularly by the premature.

In Group 1, the average daily balance rose from minus 0.005 mg. of iron per kilogram with milk alone to plus 0.248 mg. with milk and meat. Iron retention in Group 3 was minus 0.006 mg. for milk and plus 0.237 mg. with only meat protein.

Aureomycin Dosage Schedules for Children

COLEMAN M. WHITLOCK, JR., M.D., ANDREW D. HUNT, JR., M.D., AND SYLVIA G. TASHMAN*

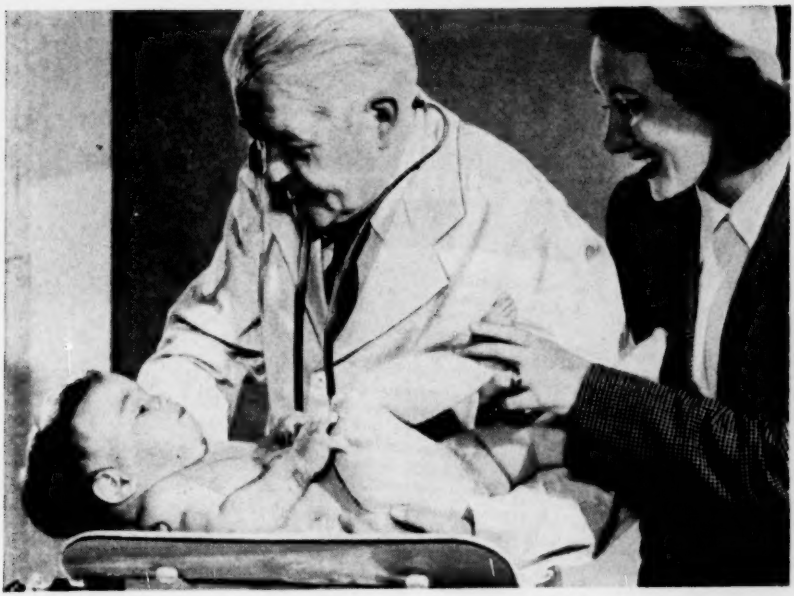
THERAPEUTIC blood levels of aureomycin for children can usually be achieved by doses of 11 mg. of the drug per kilogram of body weight given by mouth at four-hour intervals.

This dosage is usually well tolerated and produces serum levels approximately as high as larger initial doses. Incidence and severity of gastrointestinal symptoms are apparently reduced if aureomycin is given with milk.

For patients unable to take aureomycin by mouth and when infections require intensive treatment and high serum levels, Coleman M. Whitlock, Jr., M.D., of the Bowman Gray School of Medicine, Winston-Salem, N.C., and Andrew D. Hunt, Jr., M.D., and Sylvia G. Tashman of the University of Pennsylvania, Philadelphia, found the intravenous route the most desirable method for parenteral administration. Tentative dosage is 6.6 mg. per kilogram of body weight every twelve hours. A single intravenous dose followed by oral therapy is sometimes effective.

Intramuscular administration produces low serum levels and is too often accompanied by febrile reactions, local pain, and inflammation to be recommended. Rectal administration is unreliable.

* Studies on the administration, absorption, distribution and excretion of aureomycin in children. Pediatrics 6:827-842, 1950.



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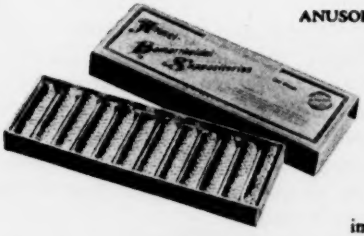

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Medical Forum

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Measurement of Hemorrhage*

Comment invited from
George F. Mc Innes, M.D.
D. E. Hale, M.D.
Norris E. Lenahan, M.D.
Sal Aquilina, M.D.

► TO THE EDITORS: We find, as do Drs. Irving Rudman and John D. Stewart, that hemoglobin and hematocrit determinations do not give a true picture, pre- or postoperatively, of debilitated patients, but are dependent largely on the state of hemoconcentration or hemodilution.

Changes in red cell volume reflect quantitatively the addition or loss of blood and therefore give a more accurate means of determination. In addition, it was found that there is little or no correlation between percentage changes in hemoglobin, hematocrit, and red cell mass, using pretreatment values as a base line.

GEORGE F. MC INNES, M.D.
New York City

► TO THE EDITORS: It is my impression that the best method of determining blood loss is that employed by Drs. Irving Rudman and John D. Stewart. Similarly, this test is valuable in estimating the amount of replacement required.

At times it is not possible to wait for reports on these tests, particularly during severe hemorrhage which occurs in the course of surgery. Under these circumstances, the blood pressure is probably a satisfactory index of the blood loss from a practical standpoint, and a return of blood pressure to normal indicates that enough blood or blood substitute has been given to the patient for the time being.

Occasionally it is advisable when operating upon a patient who is bleeding from a peptic ulcer to give blood at a rapid rate, much faster than 325 cc. an hour. This blood may be given by vein under pressure or into the artery under pressure in case of great need. In such a case, it may be advisable to delay rapid infusion until the bleeding point has been secured, as, for example, a spurter in a marginal ulcer, whereupon the blood volume can be rather rapidly restored to normal by using whatever quantities of blood are necessary.

Evidences of overinfusion include a rise of blood pressure above normal, the occurrence of irregularities in the pulse, distention of the veins, particularly those of the neck, and the appearance of pulmonary edema.

D. E. HALE, M.D.
Cleveland

*MODERN MEDICINE, Dec. 15, 1950, p. 59.

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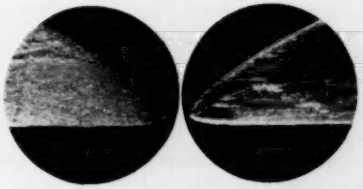

Photomicrograph of scalpel immersed in ordinary germicide 6 months shows pitting (left), and in C. R. I. Germicide 6 months, none.

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► TO THE EDITORS: A patient's condition postoperatively depends on several factors, among which are surgical trauma, length of operation, type of anesthesia, and loss of blood. The more closely each of these factors is kept near normal, the more rapid will be the recovery. Causes producing shock have been reduced to a minimum by improved methods of surgery and anesthesia. Hemorrhage or blood loss is now the chief remaining cause of shock.

Hemorrhage, too, can be controlled and measured and the lost blood replaced by adequate amounts: 1 gm. of blood by weight equals 1 cc. of blood, and 500 gm. of blood by actual weight equals 500 cc. of transfusable blood.

In 1924, Gatch and Little observed that blood losses up to 700 cc. do not appreciably disturb a patient's postoperative course. Robust and healthy persons can lose 700 to 900 cc. of blood without signs of shock. However, Coller and associates noted that in the aged, undernourished, seriously ill, or bedfast patients this does not hold true and that an equal volume of blood should be replaced.

The only accurate determination of blood loss that can be quickly done with a minimum of equipment is by direct measurement, that is, weighing the blood-soaked sponges, towels, drapes, and so forth.

If the blood is mixed with water or other fluids, the colorimetric method must be used, which necessitates employment of the laboratory and a somewhat complicated formula. Nevertheless, the blood loss can be accurately calculated in a few minutes.

Charts were made for over 500 operations. Data on the first 270 operations are shown in Tables 1 and 2.

NORRIS E. LENAHAN, M.D.
Columbus

TABLE 1. DATA ON BLOOD LOSS

	Number of Cases	Blood Loss, cc.		
		Minimum	Maximum	Average
Hernia	20	25	75	40
Appendectomy	20	25	50	35
Hemorrhoidectomy	20	25	150	55
Salpingectomy	25	80	225	150
Hysterectomy	25	155	375	300
Thyroidectomy	10	75	200	125
Biliary surgery	10	75	525	300

TABLE 2. DATA ON BLOOD LOSS IN 77 CASES

	Number of Cases	Blood Loss, cc.		
		Minimum	Maximum	Average
Gastric resection	12	320	780	503
Intestinal resection	10	510	1,425	769
Abdominal perineal resection	10	415	2,420	1,080
Vagotomy	10	165	690	423
Suprapubic prostatectomy	10	265	1,235	551
Transurethral resection	15	172	855	563
Nephrectomy	10	285	845	478

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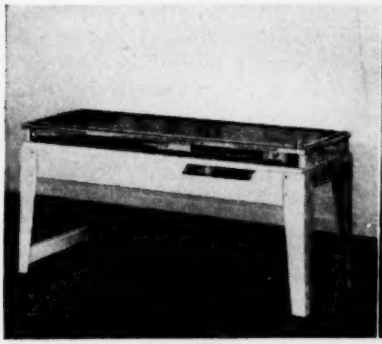

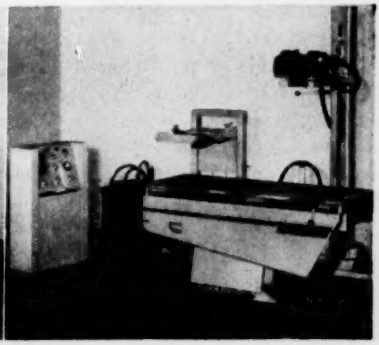

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► TO THE EDITORS: The fundamental problem in hemorrhagic shock is blood loss and, of course, the replacement thereof. The determination of the plasma volume by the dilution of Evans blue and the computation of the total blood volume and the red cell fraction is the most intimate means we have at our disposal to measure the blood loss.

It is to be stressed, however, that the popular laboratory methods that have served for so long should not be discarded but should be considered as adjuncts to the newer means of appraising blood loss. Indeed hemoglobin, red cell count, hematocrit, and so on, when abnormal in shock states, result from the pathologic process, and the progress of therapy can be followed by these tests.

Caution should be exercised in quantitative blood replacement with acute blood loss. There is some experimental evidence to show that in such states the reduction in the circulatory red cell volume is greater than can be accounted for by blood loss, that there is a considerable amount of trapping of red cells in the smaller blood vessels, and that the variation in the hematocrit in the various sized blood vessels is marked.

Therefore, while it is appreciated that we have a means of measuring plasma volume, and by computation red cell volume, with the use of Evans blue, the popular laboratory tests should be used in a total appraisal of a given patient. And I believe that Evans blue can be a popular test in most hospitals.

SAL AQUILINA, M.D.

Batavia, N.Y.

Alcoholism and Genetic Influences*

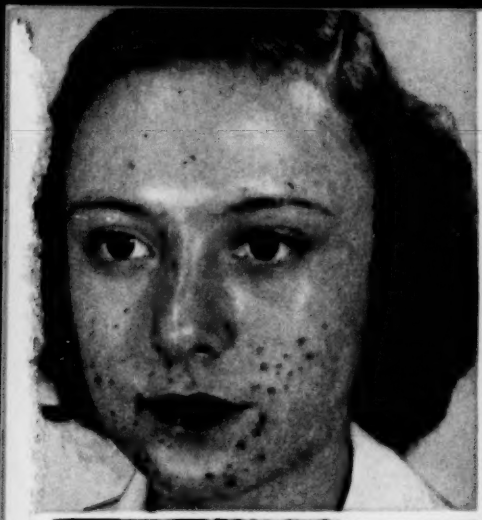
Comment invited from
John W. Tintera, M.D.

► TO THE EDITORS: For many years we have maintained that an adrenocortical deficiency is as much of a genetic factor as the well-established diabetic hereditary factor. Individuals manifesting this genetic influence, as Drs. Roger J. Williams, L. Joe Berry, and Ernest Beerstecher, Jr., point out, usually show a decreased metabolism, marked hypotension and orthostatic changes in blood pressure, a characteristic hair distribution, and a fondness or even a real craving for salt and carbohydrates.

In children whose parents have shown this deficiency, we very often find similar traits plus lack of concentration, even though the child has a high intelligence quotient. These children have a marked craving for sweets but, when they are placed on a low-carbohydrate diet alone, reveal marked changes in personality and their schoolteachers' reports disclose a complete reversal of inattentiveness, uncooperativeness, and poor scholastic standing.

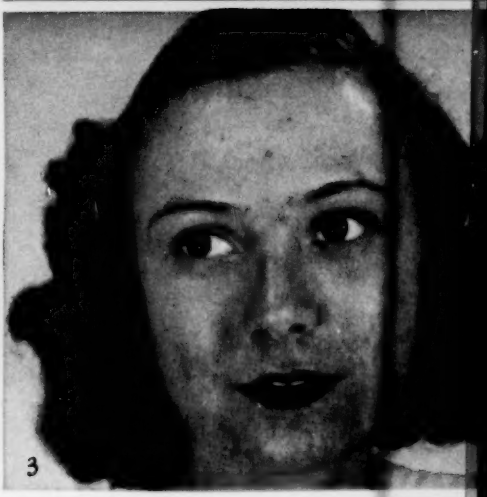
In the case histories of alcoholics many patients have referred to their progressive carbohydrate or candy binges in childhood or early adulthood that induced greater adrenal involvement. To further substantiate this contention, Drs. E. L. McCandless and J. A. Dye have demonstrated that a particular intestinal flora develops in animals with a pituitary-adrenal insufficiency when fed a high-

*MODERN MEDICINE, Oct. 15, 1950, p. 73.



See how

clears up with



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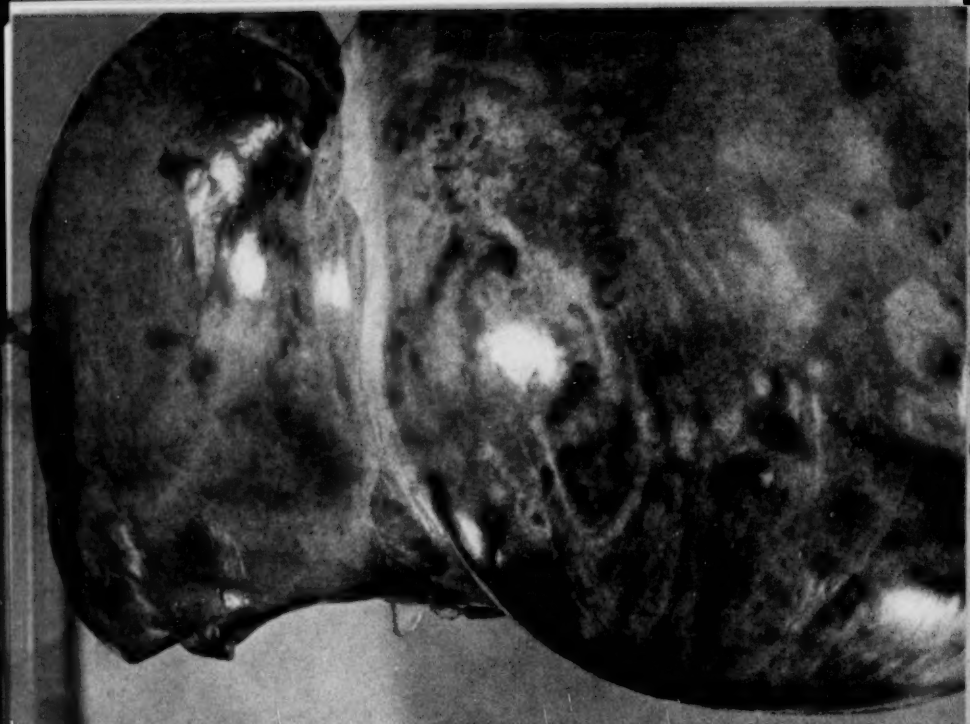

Actual photograph of a liver (weight, 2800 grams). The underlying parenchyma is greasy and diffusely orange-red. Pathologist's diagnoses: "obesity; left ventricular hypertrophy; pulmonary edema and congestion; fatty infiltration of liver; fatty infiltration of pancreas."

The liver of an overweight patient

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carbohydrate diet with the liberation of acetaldehyde, acetylcholine, and acetic acid rather than glycogen (*Am. J. Physiol.* 162:434, 1950). A progressive adrenal deficiency is encountered even before maturity.

Our alcoholic patients have furthermore stated that these binges lifted them from periods of depression to temporary periods of elation. Very soon, however, these same individuals discovered that emotional depression could be alleviated more effectively by the consumption of alcohol. But this respite from depression and craving was of short duration so that continued drinking seemed to be the only answer.

In a previous communication, Dr. Lovell and I have demonstrated that this craving is a physiologic attempt to increase the subject's low blood sugar.

With continued usage of alcohol, however, adrenal cortical damage is increased and fatty infiltration of the liver occurs. In the early, mild, chronic alcoholics is found the typical flat glucose tolerance curve of adrenocortical deficiency. As this disease progresses as a result of alcoholism, a curve typical of chronic hepatitis develops. In chronic alcoholism, as in hepatic damage, the glucose tolerance curve usually starts at a low level, suddenly rises to hyperglycemic levels, forms a plateau, and then precipitously drops again to the hypoglycemic level. As Dr. George W. Thorn (*The Diagnosis and Treatment of Adrenal Insufficiency*, 1949) has demonstrated, even minor drops in the blood sugar level will give marked symptoms of hypoglycemia and at this point the craving for carbohydrates or alcohol is intense.

We have never felt that any vitamin deficiency was related to compulsive alcoholic drinking, nor have we felt that supplemental vitamins lessened this compulsion. In our treatment of chronic alcoholism we feel that, aside from the adrenocortical therapy, a diet low in carbohydrates and high in protein and fat has more to do with the alleviation of these compulsive symptoms than any other factor.

The maintenance of a level glucose curve throughout the day obviates a hypoglycemic state which is invariably present when the alcoholic is in the state of depression, confusion, nervousness, and apprehension. It is at these low points that he will succumb to the physiologic urge to increase the lowered sugar level by the imbibition of alcohol.

It is so often found that the offspring of alcoholic parents either become alcoholics themselves or teetotalers because they realize their inability to handle or tolerate alcohol. These same individuals are the ones who retain their leanness and asthenia throughout life since they are not able to metabolize carbohydrates properly.

Like their teetotaler forebears they may expect to have longevity much beyond the average with the assurance that senility due to arteriosclerotic changes will not usually ensue. Their predecessors with this hypoadrenocorticism often reached 80, 90, or even 100 years of age, and still maintained their mental acuity.

JOHN W. TINTERA, M.D.
Yonkers, N.Y.

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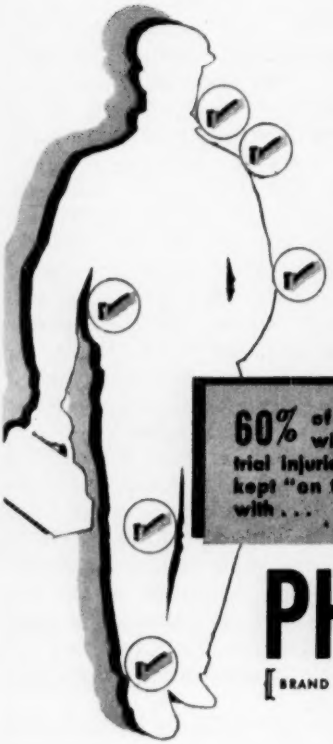

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REFERENCES: 1. Marshall, W.: Journal-Lancet 70: 391 (Oct.) 1950. 2. Stahmer, A. H.: Wisconsin M. J. 49: 1020 (Nov.) 1950. 3. Stahmer, A. H.: To be published. 4. Goldman, J., and Cohen, A.: Journal-Lancet 66: 415 (Dec.) 1946.

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Analgesia in First Stage of Labor*

Comment invited from
Lees Malcolm Schadel, Jr., M.D.
Bert B. Hershenson, M.D.

► TO THE EDITORS: Since judicious reassurance allows most women to pass through the first part, the early phase, of the first stage of labor, it would seem hardly necessary to employ a technic such as intradermal infiltration of suprapubic, inguinal, and sacral regions, as described by Dr. Archie A. Abrams.

Most women need very little physiologic analgesia until the cervix is dilated several centimeters. Any technic for obstetric analgesia should fulfill all the requirements of safety and simplicity as well as prepare the patient for any anesthesia which may be necessary for the important second stage and allow necessary forceps delivery and easy repair of the episiotomy.

Obviously, local anesthesia such as pudendal block fulfills these requirements par excellence, and the use of mild preanesthetic sedations, such as Demerol and Scopolamine, in the first stage of labor is a better preparation for any ultimate anesthesia.

LEES MALCOLM SCHADEL, JR., M.D.
Philadelphia

► TO THE EDITORS: Views about the nature of pain in labor have been controversial over the ages. They have varied from those questioning the reality of pain in labor to others attempting to make labor completely painless in every case. A good discussion on this topic is "Evaluation of Present Day Trends in Obstetrics" by D. E. Reid and M. E. Cohen (*J.A.M.A.* 142:615-623, 1950).

Women are entirely justified in expecting freedom from pain during labor with safety. It is the responsibility of the medical profession to provide the know-how as well as the agents for safe pain relief consistent with good obstetric practice.

The practice of safe pain relief during labor must consider labor as an integrated process of a very complicated problem. Any plan of anesthesia should be based on proper premedication during the first stage of labor for the anesthetic procedure to be applied to the subsequent stages of labor, if maximum safety is to be considered for mother and baby. There are many aspects to this problem, some of which we may touch upon as follows:

- Labor contractions of the uterus and the process of delivery are painful experiences to most women. There are many factors—environmental, psychic, and physiologic—which influence this painful experience. Observers as well as patients often confuse pain perception with pain reaction.

- Fear, anxiety, and other emotional factors intensify the perception of pain.

- We are unable to localize any pain centers in the cortex. The thalamus is considered important in the integration of many pain pathways but is unable to discriminate the origins, localizations, or intensities of pain. The central component is an essential consideration in the treatment of the painful experience.

- Investigation of the peripheral pathways of pain during labor needs further clarification. Some of these pathways are quite generally accepted, such as Cleland's concept that the dermatomes T11-12 correspond to the sensory

*MODERN MEDICINE, Feb. 15, 1951, p. 99.

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elements of painful uterine contractions. The definite identification of uterine pain receptors remains a problem for future study.

• Views on the origin, nature, mechanism, and pathways of visceral pain are varied. The late Sir Thomas Lewis clearly emphasized the distinction between pain of visceral origin and the referred areas of hyperalgesia. These concepts apply equally as well to pain of uterine origin during labor. Procaine or procaine-like drugs injected into the area of referred hyperalgesia often result in more or less reduction of the patient's discomfort but do not prepare her for delivery. The second stage of labor is the one which calls for maximum pain relief, as well as the latter portion of the first stage.

• The labor process should be considered as an integrated whole from the viewpoint of pain relief safe for mother and baby. Premedication and anesthesia must be planned as an integrated clinical approach. The different analgesic and anesthetic procedures are of different value at the various stages of labor. Premedications during labor must be correlated with the anesthetic procedure employed for the delivery, if the entire procedure is to be safe for mother and baby. Current practices at the Boston Lying-in Hospital have been published (*New England J. Med.* 239:429-433, 1948). Our methods are primarily aimed at raising the threshold of pain perception, effectively but safely, while modifying the patient's reactions, attitudes, and feelings to the pain experience.

• The degree of safe pain relief is dependent on the environment in which the natural forces of labor are managed, the response of the individual mother and fetus, and many other factors. The attention, experience, and judgment of the team of obstetrician, anesthesiologist, and coworkers are of the utmost importance. The skilled team has the opportunity to choose the particular agent and technic best suited to each patient in labor. The importance of the anesthesiologist as a member of the obstetric team is increasingly recognized.

There is no one best method of producing analgesia in labor that can be universally applied with safety. As one matures in medicine, he becomes more and more impressed with the impossibility of standardizing a technic to fit all patients.

BERT B. HERSHENSON, M.D.

Boston

Anti-Pitressin Factor in Dysmenorrhea Therapy*

Comment invited from R. A. Woodbury, M.D.

► TO THE EDITORS: Dr. William Bickers' report that repeated injections of vasopressin are effective in relieving the distress of many patients with primary dysmenorrhea appears to have a firm pharmacologic basis.

Observations made by our group demonstrated that symptoms of dysmenorrhea could be intensified or produced by small administrations of vasopressin. Our group demonstrated that these patients were abnormally sensitive to vasopressin and that all showed an increased sensitivity to vasopressin during the last half of the menstrual cycle.

Repeated administration of vasopressin beginning on the fifteenth day of the cycle could be expected to act much as histamine desensitization technic in allergic phenomena. It is conceivable that antihormones would be developed, though it appears more reasonable that a desensitization occurs, since tolerance and tachyphylaxis are known to develop to vasopressin.

R. A. WOODBURY, M.D.

Memphis

*MODERN MEDICINE, Feb. 1, 1951, p. 78.

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*Nesbit and Lapides, University of Michigan Medical Bulletin, Vol. 16, pp. 37-42 (1950); Richardson and Rose, Journal of Urology, Vol. 63, pp. 1113-19 (1950).

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Effect of Attitude on Breast Feeding*

Comment invited from
David P. Ausubel, M.D.
Ross Mitchell, M.D.

► TO THE EDITORS: I seriously doubt whether Drs. Niles Rumely Newton and Michael Newton have effectively proved that lactation is affected by the mother's feelings about breast feeding.

They have given no consideration to the action of the prolactin portion of the anterior pituitary which begins to function when the inhibitory influence of the placental hormones is removed after childbirth. This action serves both to initiate lactation and to stimulate maternal feelings. Hence both maternal attitude and milk flow are dependent upon prolactin output. This seems to be a more reasonable explanation of the Newtons' experimental results than the more naive interpretation of a direct psychosomatic relationship between maternal feelings about breast feeding and milk output.

DAVID P. AUSUBEL, M.D.
Champaign, Ill.

► TO THE EDITORS: The great majority of doctors are convinced of the desirability of breast feeding when possible, but how many put their conviction into practice? Oliver Wendell Holmes said that the two hemispheres of a mother's breasts can furnish a better food for her baby than the two cerebral hemispheres of any professor, however eminent.

Drs. Niles Rumley Newton and Michael Newton have shown in their analysis of a series of 91 newly delivered mothers that the mental attitude toward breast feeding exercises a powerful influence. The women who expressed desire or determination to breast feed their babies met with more success than those who were doubtful or negative.

This emotional element extends to dairy animals. The manufacturers of a brand of milk advertise that it comes from contented cows. Any farm boy knows that milk production is reduced if cows are chased home from pasture and also that a careful milker can obtain more milk than one who is rough or unskilled.

The authors rightly urge that a strong maternal desire to suckle the child should be encouraged during pregnancy.

ROSS MITCHELL, M.D.
Winnipeg, Man.

*MODERN MEDICINE, Aug. 15, 1950, p. 75.

Nonunion of Fractures*

Comment invited from
M. Weinlos, M.D.

► TO THE EDITORS: I am in complete agreement with Dr. Sam W. Banks on the causes of nonunion and with his idea that bone grafting is the most suitable form of treatment. This seems the most physiologic approach, in that the bone graft tends to supply the necessary material for union.

I would like to stress the fact that Watson-Jones maintains that the single most important step in preventing nonunion is immobilization and the maintenance of immobilization until union has occurred.

M. WEINLOS, M.D.
Edmonton, Alb.

*MODERN MEDICINE, May 15, 1950, p. 136.

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Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-189

THE CLUE

ATTENDING M.D: I want you to see a 52-year-old man who suddenly had pain beginning in the intrascapular region and extending down his back and into his abdomen. That happened one hour ago and for the last twenty minutes he has felt numbness and tingling in each leg. His bowel movements have been profuse and bloody.

VISITING M.D: What is his blood pressure?

ATTENDING M.D: 250/100. We have had to give him morphine but it has not completely relieved him, although he has had 1 gr. already.

PART II

VISITING M.D: *(Entering patient's room)* I notice that he has severe pain but is not in shock. The blood pressure is still high. I believe I know what the trouble is and I would like to examine the man briefly. *(Examining patient)* Medical and neurologic examination, so far as I can tell, show nothing unusual, with the exception of a large heart and an indistinct systolic murmur over the entire precordium. I'd like to have an electrocardiogram, a roentgenogram of the chest and abdomen, urine analysis, and white count for this patient.

PART III

ATTENDING M.D: The leukocyte count was 13,000, the sedimentation rate 50; there was 3 + albumin, occasional red cells. Chest film showed some dilatation of the ascending aorta and the electrocardiogram had no specific diagnostic findings.

VISITING M.D: In view of these findings we should consider the differential diagnosis of acute upper back pain. Acute pain situations associated with hypertension and caused by hypertension are few. I do not believe the patient has coronary angina or occlusion nor do I believe he has a cerebral vascular accident, although I note some convulsive movements in the left arm at the present time. There is no indication of spinal cord or chest lesion. His pain has become increasingly severe since I first saw him and the reflexes in the legs have diminished.

PART IV

VISITING M.D: This patient has a dissecting aneurysm of the aorta. About 10 to 20% of these patients die in the initial attack and 50% of those who survive will die later of rupture into the peritoneal or

standard references all

Companion to their other constantly-referred-to works (and considered virtually as indispensable) are the Picker X-Ray Accessory Catalogs on thousands of doctors' bookshelves.

This catalog has long been a standard reference for materials used in radiography, fluoroscopy, and radiation therapy . . . probably the most complete source book for x-ray accessories extant. Its two hundred pages embrace not only Picker-made products, but a host of others gathered from all over the world, and offered under the Picker guarantee. The wide range of the collection is evidence of our ceaseless search for better ways to serve you.

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Syrup Neohetramine,
pint and gallon bottles,
6.25 mg. per cc.
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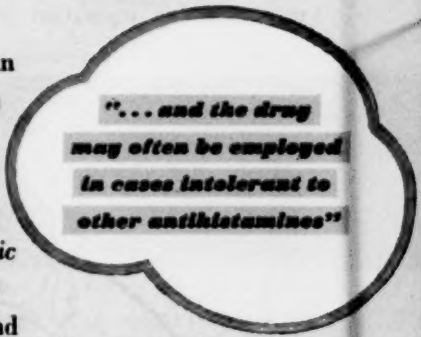
2%, 1 oz. tubes.

. . in antihistamine therapy



Every careful physician will ask about an antihistamine: "How safe is it?" Which drug, useful as an antihistaminic and clinically safe, should be a prescription of choice? • Numerous reports suggest the answer: *Neohetramine, in therapeutic doses, is one of the best tolerated of the antihistamines.*[1,3,4] Both the incidence and degree of side effects are low;[2,5] and the drug may often be employed in cases intolerant to other antihistamines.[4] Yet the usefulness of Neohetramine is clinically equivalent to that of other preparations. • Prescribe Neohetramine, for "safety first", when antihistamine therapy is indicated. Professional samples will be sent upon request.

Dosage: Average individual dose is 50 to 100 mg., 2 to 4 times daily. Children, 25 mg., 2 to 4 times daily.

References: 1. Alexander, H. L.: Postgrad. Med. 3:278 (April) 1948. 2. Bernstein, J. B., and Feinberg, S. M.: J. Allergy 19:393 (Nov.) 1948. 3. Criep, L., and Aaron, T. H.: J. Allergy 19:215 (July) 1948. 4. Friedlaender, S. M., and Friedlaender, A. S.: J. Lab. & Clin. Med. 33:865 (July) 1948. 5. Schwartz, E.: Ann. Allergy 5:770 (Nov.-Dec.) 1949.

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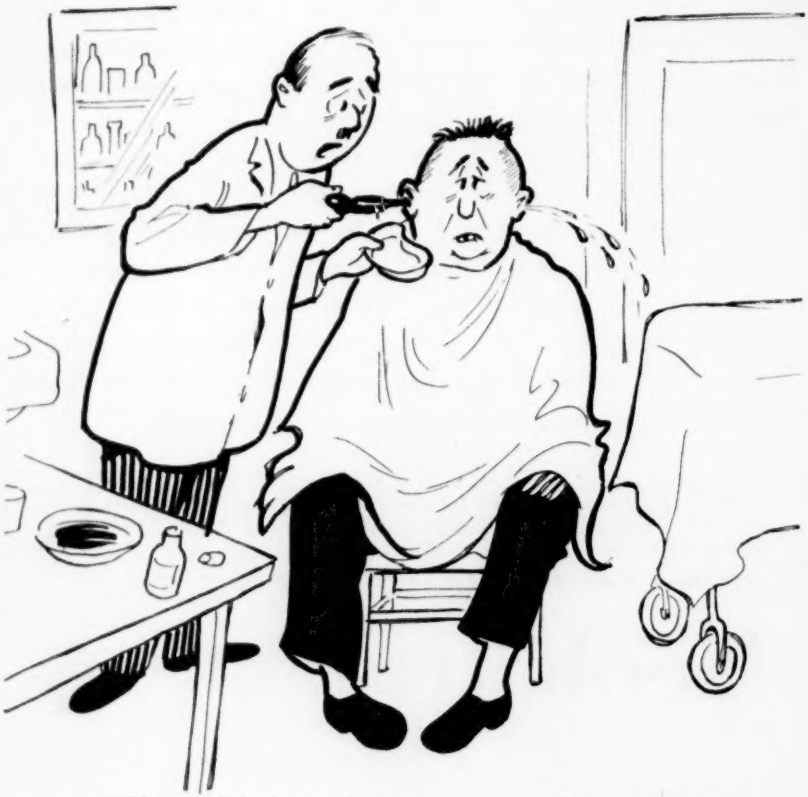
pleural cavity. A double-barrel aorta may form and often rupture into the iliac vessels. Such re-ruptures may heal and the patient may survive for many years without complications. However, we have evidence here of sudden splitting along the arch of the aorta with probable separation of the intercostal vessels, and of the lumbar, and now iliac vessels. About one-third or more patients have some neuroligic complication. Most of them have acute sudden pain and hypertension. *(The patient subsequently dies and is found to have the condition suggested by the visiting consultant.)*



"The trouble is not in your ears, Mr. Campbell."

here's help for

FRAGILE

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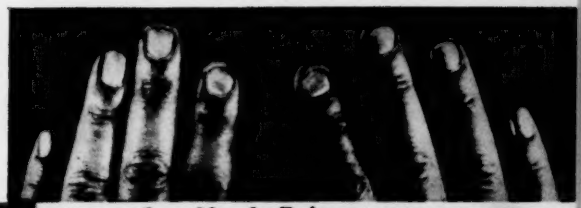

(Top) ***Case No. 1: Before treatment***

(Bottom) ***Same case following treatment***

A preliminary report of a recent clinical study[1] on 12 patients complaining of soft, peeling, easily broken finger nails, confirms the value of gelatine in treatment of such conditions. The cases involved were of 1 to 15 years' duration, unyielding to various forms of local therapy.

Each patient was given 7 gms. (1 envelope) of Knox Gelatine daily, dissolved in water or fruit juice. Completely normal appearance of nails in ten cases, is reported in 13 weeks.

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1. Tyson, T.L., M.D.; *J1. Inves. Derm.; 14. No. 5 May 1950.*

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Basic Science Briefs

Nutrition

Protein Growth Factor

Crude casein contains a substance indispensable to the normal growth and reproduction of rats. When crude casein is replaced by purified casein, the animals grow, reproduce, and lactate normally. The offspring, however, have a high mortality rate, with the survivors reaching almost normal growth and with some of the females being able to reproduce. Dr. M. Piccioni and associates of the University of Bologna, Italy, observe, however, that all the young of the surviving females die by the third week of life. The chief lesions of the offspring of the rats deprived of crude casein are in the liver. Vitamin B_{12} administered to second generation litters was completely ineffective. Small quantities of whole cow's milk, however, saved the animals. The growth factor thus does not seem to be identifiable with vitamin B_{12}.

Science 113:179-181, 1951.

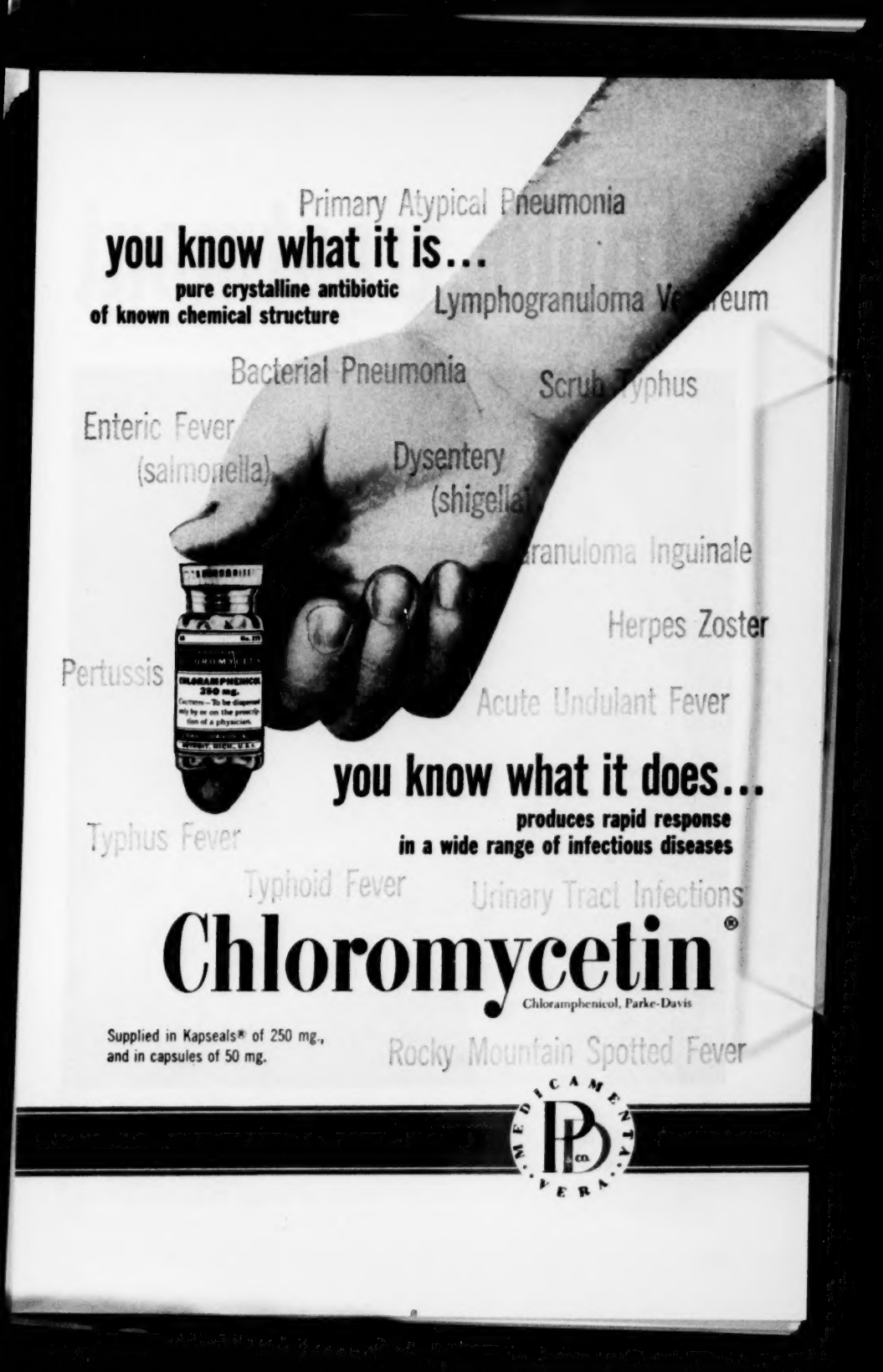
"I know you doctors are always learning new things and Mrs. Limp just gave me the best remedy for stomach ache today. I knew you would want to know about it so you could add it to your bag of tricks."

Experimental Medicine

Endocarditis and Altitude

Exposure to high altitudes increases susceptibility to bacterial endocarditis in rats. Drs. Benjamin Highman and Paul D. Altland of the National Institutes of Health, Bethesda, Md., report that, after intravenous injections of *Streptococcus mitis, Str. sanguis,* and *Str. bovis,* bacterial endocarditis developed in 26 of 44 rats that had been subjected to simulated high altitudes, but in only 1 of 39 animals not so exposed. The simulated heights were 25,000 ft., four hours daily, for a period of three to six months before injections were started. Exposures were also continued during the three weeks of injections. With injection of *Str. fecalis,* endocarditis occurred in 20 of 26 rats exposed to high altitudes and in only 7 of 14 animals not exposed.

Proc. Soc. Exper. Biol. & Med. 75:573-577, 1950.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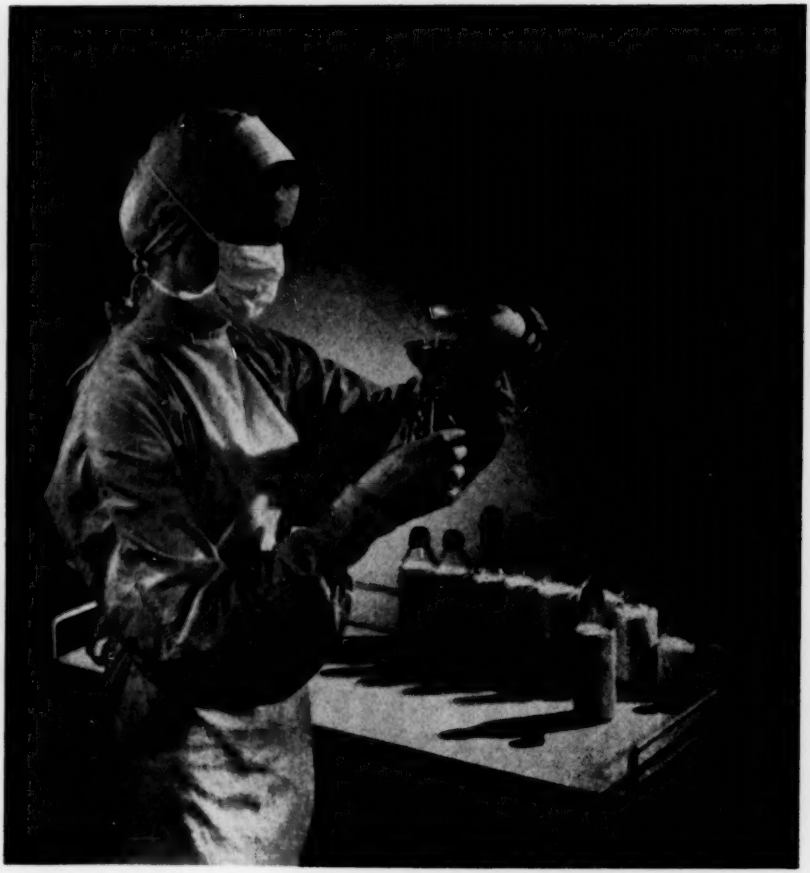

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*Southern Med. J.; 43:320, April, 1950

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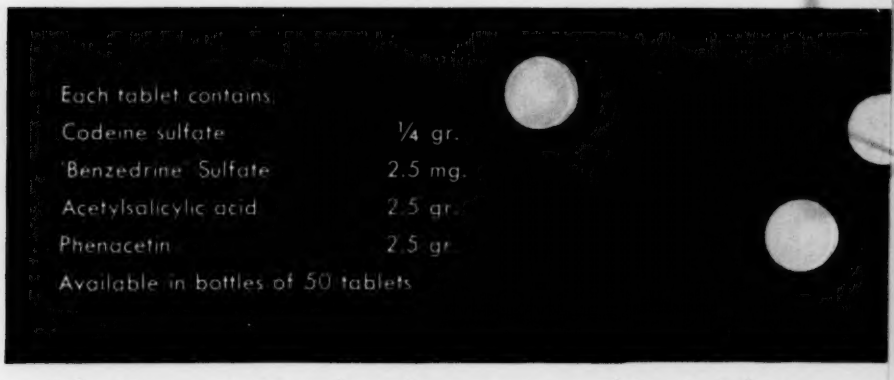

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'Edrisal' & 'Benzedrine' T.M. Reg. U.S. Pat. Off.

see other side

Multiple Births and Fecundity

JOHN BENJAMIN NICHOLS, M.D.*
Washington, D.C.

HUMAN interest in matters sexual has inspired imaginary and fantastic stories about childbirth. Tall tales of prodigious fecundity and plural births were favorite topics of the ancient and medieval storytellers.

One celebrated narrative recounts that on the Friday before Palm Sunday in the year 1276, the Countess of Henneberg gave birth to 365 children, 182 boys, a like number of girls, and 1 of double or nondescript sex. The infants—all the boys being christened John, and all the girls Elizabeth—were baptized by the Bishop of Treras in two large brazen vessels which for centuries were kept on exhibition in a museum near The Hague.

Case of pregnancy with 11 fetuses, after Ambroise Paré, *Oeuvres*, 1575

This occurrence was the fulfillment of the prayer of a mother of twins who, infuriated at being accused by the countess of having more than one father for the twins, revengefully prayed that the countess should have as many children as there were days in the year. Actually, a case of hydatidiform moles probably afforded some basis of fact for the myth.

Women of the nobility were special targets of the legends. A story similar to the one above was told of a Countess Ermentrude, who had made like accusations against the mother of a set of triplets. The next year the countess received her meed by giving birth to 12 sons.

Margaret, the wife of Count Virboslaus of Poland, bore 36 children on January 20, 1296. Another woman was said to have had 20 sons, 9 at one birth, and 11 at another. Margarita Goncalez, of Valencia, in the late sixteenth century, had 33 accouchements and 144 children by two husbands. A woman of Florence allegedly bore 52 children, never less than 3 at a time, and as many as 6.

The wife of Lord Maldemeure of Seaux had twins in the first year after marriage, triplets the second, quadruplets the third, quintuplets the fourth, and sextuplets the fifth, when she died.

There are numerous accounts of the occurrence of quintuplet births, going back to ancient Egyptian and Roman times, and emanating from all quarters of the world. On account of their vagueness, incredibility, and mixture with obvious myth,

* Quintuplets and fecundity. M. Ann. District of Columbia 19:601-607, 659, 1950

the reports before the seventeenth century may be disregarded, observes John Benjamin Nichols, M.D.

More reliance can be placed on cases recorded within the past three hundred years. Within this period, a total of 75 or 80 cases can be collected. Some of the published accounts are indefinite or unverifiable. Some genuine cases elude detection; the world over, without a doubt, many cases of quintuplet births are not reported or published.

From the literature, at least 62 reasonably definite cases of quintuplet births can be collected. Of these, 46 are derived from the reports of attending physicians and present such details as the prematurity and stage of gestation, course of labor, and viability, survival, size, weight, and sex of the infants. Some of the cases are confirmed by photographs and some of the specimens are deposited in medical museums.

The modern world is as interested as the ancient in unusual and remarkable births and great fecundity. Twins, triplets, and quadruplets attract increasing attention. Quintuplets and upward are regarded as most amazing events.

A dramatic birth occurred sixteen years ago, which attracted, and has since held, the fascinated attention and interest of the entire world. That was the arrival of the Dionne quintuplets in Canada in 1934.

This occurrence aroused interest in quintuplet births in general and has led to more complete and systematic gathering and reporting in the daily press of the news of such cases.

(Continued on page 170)

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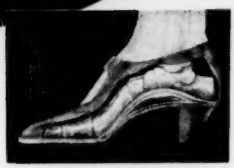

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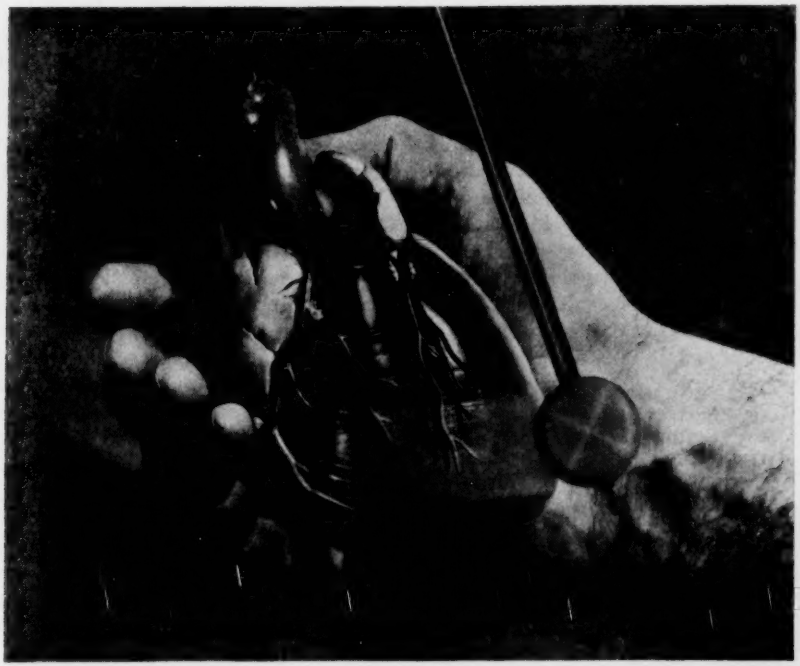

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For dosage instructions consult Physicians' Desk Reference

which are now known to be constantly taking place all over the world.

In the past eighty years or so there have been 8 well-authenticated quintuplet births in the United States. In addition to these quintuplet reports, the following more or less dubious cases of higher degree in the United States have been reported in brief news items in reputable medical journals, but confirmation has been possible only in the 1936 case:

1847 Sextuplets in Maine
1888 Sextuplets in Texas
1936 Sextuplets in Missouri
1899 Septuplets in Pennsylvania (Negro)
1872 Octuplets in Ohio

In the United States, since general registration of births was instituted in 1915, about 80,000,000 births have occurred. Of these, a trifle more than 1% were plural, predominantly twins. Twins were born once in every 89 or 90 accouchements, triplets once in about 9,000, quadruplets once in 600,000, and quintuplets approximately once in 20,000,000. No accurate record is kept of births in the entire world, but if the birth rate of the United States were universally applicable, the number of births would amount to some tens of millions, and 1 annual quintuplet birth would yield a world ratio approximately that of the United States.

As the population of the United States is about one-fifteenth that of the entire world, a quintuplet birth might be expected once in every fifteen years. The actual frequency has averaged 1 case for every ten years.

The present rate of 1 quintuplet case in the whole world in each year would not apply in past centuries when the population and births were far less than they are now. Consequently, the 60 or 70 known cases of quintuplet births during the past three hundred years can be regarded as quite a sizable proportion of all the cases that must have occurred in that period.

The birth of 5 infants at a time is not the maximum of which woman is capable. Items were published in American medical journals of the birth of sextuplets in Maine in 1847 and in Texas in 1888. There are references to 3 cases in Europe in 1831, 1844, and 1885.

Two cases of sextuplet births have been authentically reported outside the United States. Both were confirmed by photographs and museum specimens and were described in detail by the attending physicians. The first was the birth of 4 males

"I sometimes wonder if it's you instead of me who is going to have the baby."

from the first soft whisper....

When pregnancy is *first* diagnosed, the need for *increased* amounts of calcium, phosphorous, iron and vitamins is already present.

OBron—specifically designed for the OB patient—provides balanced proportions of calcium, phosphorous, iron and vitamins to meet the added nutritional demand of the mother and to safeguard the optimal development and growth of the fetus.

Especially beneficial during the period of lactation, OBron supplies adequate vitamins and minerals to protect the nutritional state of the mother and insure an optimal content of these nutrients in the milk for the nursing child.

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*Dicalcium Phosphate, Anhydrous...	768 mg.	Vitamin B_2 (Riboflavin).....	2 mg.
Ferrous Sulphate U.S.P.....	64.8 mg.	Vitamin B_6 (Pyridoxine Hydrochloride)	0.5 mg.
Vitamin A (Fish-Liver Oil)...	5,000 U.S.P. Units	Vitamin C (Ascorbic Acid).....	37.5 mg.
Vitamin D (Irradiated Ergosterol)	400 U.S.P. Units	Niacinamide.....	20.0 mg.
Vitamin B_1 (Thiamine Hydrochloride).	2 mg.	Calcium Pantothenate.....	3.0 mg.

Equivalent to 15 grains Dicalcium Phosphate Dihydrate

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and 2 females, stillborn at the fourth month, in Italy; the other, 5 males and 1 female to a Negro woman at a Gold Coast mission in 1903.

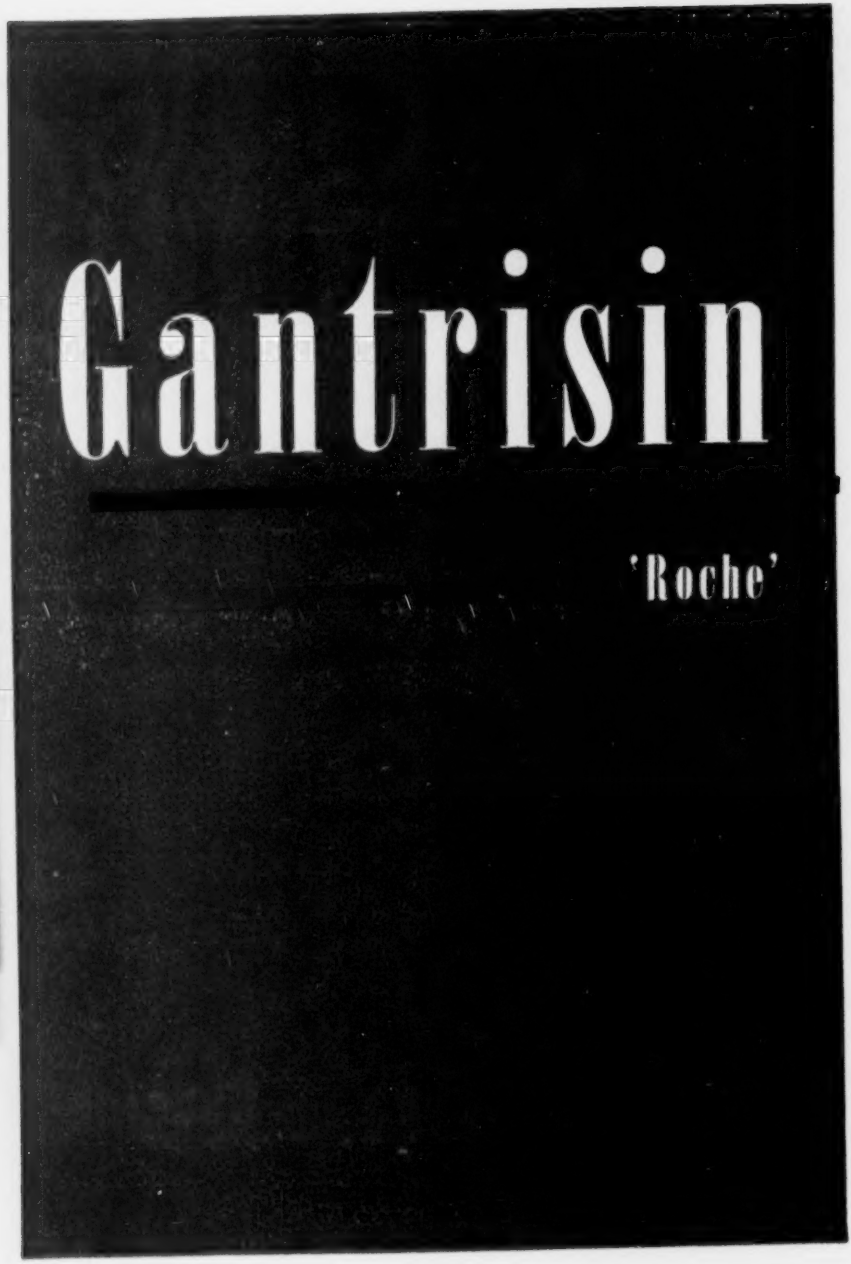
In Mendon, Mo., August 1936, a farmer's wife, age 36, and mother of 9 children, gave birth to 5 girls and 1 boy. One of the infants, a female, was born alive, the rest were stillborn. The baby weighed 9 lb. and is still living, healthy and normal.

Modern literature contains little relative to septuplet births. Frequently cited is an inscription on a gravestone in Hameln, Prussia, reciting the birth to a woman at one confinement on January 9, 1600, of 7 infants. Unconfirmed news items in responsible medical journals reported in 1899 the birth to a Negro in Pennsylvania of 3 sons and 4 daughters, and in 1872 the birth in Ohio of octuplets, 3 sons and 5 daughters. Here we are evidently getting into the penumbra of reliable information and the limits of human reproductivity.

The maximum reproductive capacity or record of the human female for single and plural births cannot be stated but certainly ranges up into the 20's. A historical instance was the mother of Sir William Phips, colonial governor of Massachusetts, who bore 26 children to her husband.

As Benedick mused in *Much Ado about Nothing* when he was contemplating matrimony, "the world must be peopled."

"I'm sorry. The doctor's giving a lecture."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■ **economy**

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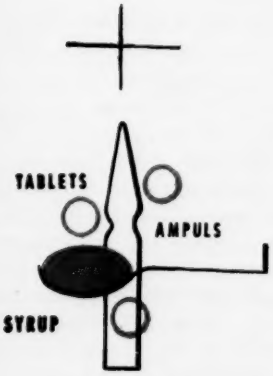

■ **less sensitization**

Gantrisin is a single drug—not a mixture of several sulfonamides—so that there is less likelihood of sensitization.

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Short Reports

Neurology

Supranuclear Bulbar Palsy from Mitral Stenosis

The familiar type of supranuclear bulbar palsy, so-called pseudobulbar palsy or laughing sickness, most often results from diffuse cerebral arteriosclerosis. The palsy is a syndrome, not a disease entity. The course is prolonged and usually associated with paralysis on one or both sides and progressive dementia. In 3 cases with mitral stenosis observed by Drs. Kenneth W. G. Heathfield of St. Bartholomew's Hospital and Eric C. O. Jewesbury of Royal Northern Hospital, England, cerebral emboli suddenly occluded vessels on both sides, causing incontinence and emotional lability with bursts of laughter and tears. Relatively young people were affected, dementia was not seen, and when emboli were small, symptoms quickly subsided. All 3 patients had had rheumatic fever many years before.

Brit. M. J. 4690:1196-1198, 1950

Grants

Gifts of New York Fund

From 1910 through 1949, the New York Foundation reports having distributed $1,781,000 for medical care, rehabilitation, and research, including $425,000 to the Health Insurance Plan of Greater New York, $155,000 to New York University, and $108,000 to Columbia University.

Organizations

TV to Visit Laboratories

A series of television films based on visits to outstanding scientific laboratories is soon to be released by the National Society for Medical Research. The society also plans to publish a book summarizing the contributions of animals to the welfare of human beings and to medical progress. Dr. Anton J. Carlson of the University of Chicago has been re-elected president of the society, and Dr. Andrew C. Ivy of the University of Illinois, secretary-treasurer.

Cardiology

Stairs and Coronary Disease

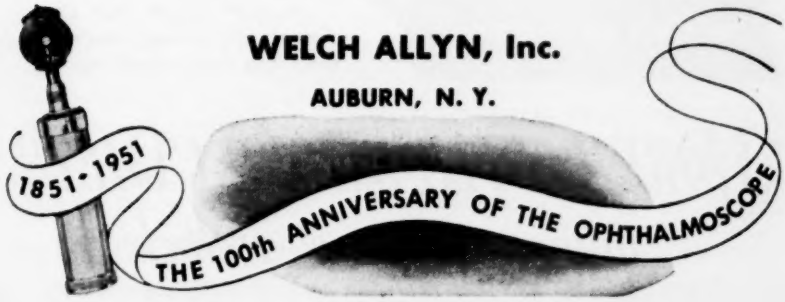
Patients with coronary heart disease without congestive failure may be allowed to climb an ordinary flight of stairs if no anginal pain occurs at the time. Such persons usually take the stairs at a comfortable pace that strains the heart little more than walking the same distance on the level. Effort of 5 normal and 5 coronary subjects was recorded during ascent, descent, and level walking by Dr. James A. L. Mathers and associates of Columbia University and Presbyterian Hospital, New York City. Cardiac work, stroke volume, pulse pressure, and heart rate were determined, using the ballistocardiograph to measure cardiac output.

Circulation 3:224-229, 1951

All these and more designed for use with the standard Welch Allyn battery handle

Progressive doctors increasingly tend to standardize on Welch Allyn for their electrically illuminated diagnostic instrument needs. Here is one of the reasons why:

Over 25 Welch Allyn instruments are immediately interchangeable on a single standard Welch Allyn battery handle. For both GP and specialist this practical, economical combination provides a high degree of convenience together with the utmost efficiency in diagnosis.



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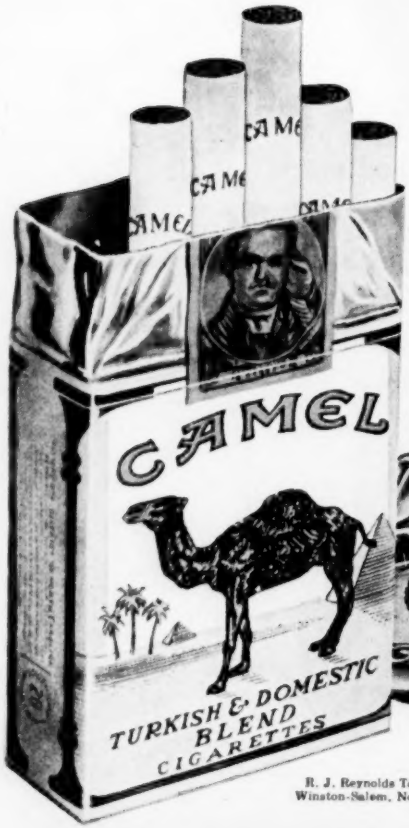
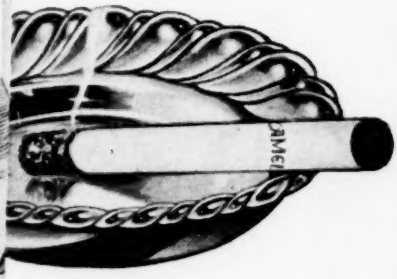


How MILD can a cigarette be?



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MAKE YOUR OWN 30-DAY CAMEL MILDNESS TEST IN YOUR OWN "T-ZONE"

That's T for Throat, T for Taste. See if the 30-day Camel Mildness Test doesn't give you the most enjoyment you've ever had from smoking.

MORE PEOPLE SMOKE CAMELS

than any other cigarette!

Doctor... listen to this conversation about you!

PATIENT... *There was so little discomfort in having that mole removed.*

NURSE... *The Doctor's new technic with the HYFRECATOR is wonderful!*

PATIENT... *You can tell the Doctor I'm going to have my sister come in. She worries about a mole on her abdomen.*

NURSE... *It's a good idea to have him look at it to make sure... and he'll know if it should be eradicated with the HYFRECATOR.*

And Doctor... Please Note

The increasingly widespread public knowledge of the danger of moles as fore-runners of skin cancer have made your patients more receptive to your suggestion that all suspect lesions be eradicated. New reprints on Precancerous Lesions are available. Write your name and address – mail for your copies.

Over 70,000

HYFRECATORS

in daily use

to eradicate moles, warts, unwanted hair and other superficial growths. Many doctors use the HYFRECATOR...High Frequency Eradicator...for fulguration and bi-active coagulation as well as desiccation. They find that the HYFRECATOR'S double spark gap power, accurately controlled and smoothly graded current... exactly meets their individual office electrosurgical demands.

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Please send me free reprints on Precancerous Lesions and Literature on the Hyfrecators.

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Antibiotics

Anemia of Blind Bowel Loop

Chronic anemia is likely to develop in rats after an intestinal anastomosis that results in a blind segment, but aureomycin therapy is completely protective. The blood deficiency is therefore due to fecal stasis and bacterial activity, rather than to the ulcers occasionally observed. At the University of Minnesota, Minneapolis, Drs. Robert W. Toon and Owen H. Wangensteen constructed intestinal pouches in rats in such a manner that the closed lumens filled with feces. After operation, some animals were given aureomycin. A few weeks later all untreated subjects had fatal macrocytic or normocytic anemia, but the other animals all remained well during several months of observation.

Proc. Soc. Exper. Biol. & Med. 75:762-765, 1950.

Nutrition

Hypertension from Deficient Diet

Lack of dietary choline early in life apparently causes high blood pressure at maturity, at least in rats. Dr. Campbell Moses and associates at the University of Pittsburgh fed 3 groups of weanling rats, with weights of about 43 gm., diets containing [1] no choline, [2] 400 mg. of choline chloride per kilogram of food, and [3] 2 gm. per kilogram. After five days of deprivation, adequate diet was restored. Similar deficient rations were given for ten days to older rats weighing about 140 gm. Six months later, when weights were approximately 350 to 400 gm., 71% of the young rats given choline-free food had blood pressure above 150 mm. of mercury but other groups had normal levels.

Proc. Soc. Exper. Biol. & Med. 75:660-661, 1950.

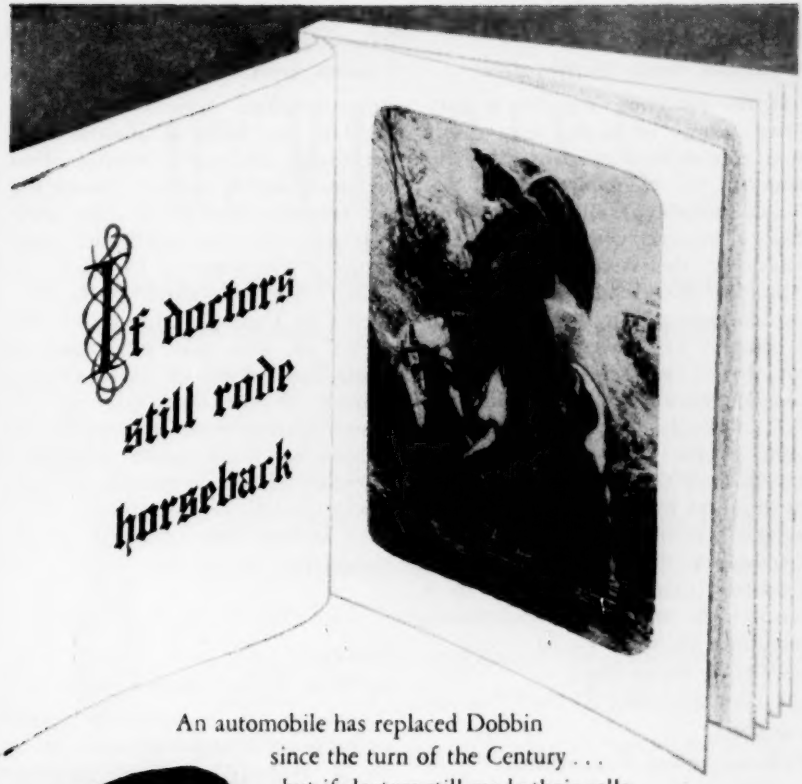
"I am sorry, Mr. Parks, but when your wife becomes pregnant there is no turning back."

Life's Weary Moments

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The April 15 winner is

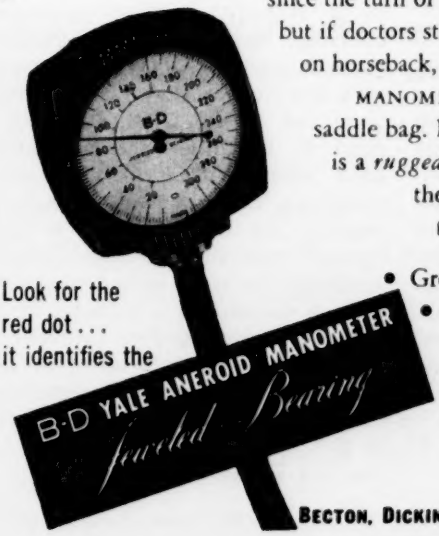
Dorothy Wyvell, M.D
Midland, Tex.

Mail your caption to The Cartoon Editor Caption Contest No. 1 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn



If doctors still rode horseback

An automobile has replaced Dobbin since the turn of the Century . . . but if doctors still made their calls on horseback, you'd find the B-D YALE ANEROID MANOMETER, Jeweled-Bearing, in many a saddle bag. Built in a *single integrated unit,* it is a *rugged* instrument that would withstand the bumps and jolts of a canter or a trot and give a lifetime of service.



Look for the red dot . . . it identifies the

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Made for the Profession

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Mycology

Moniliasis from Antibiotics

Fungous infection of the mouth, throat, lungs, or bowel may result from treatment with penicillin, aureomycin, or chloramphenicol. Moniliasis probably results from suppression of bacteria competing for nutrition in the same substrate. Dr. James W. Woods and associates advise parenteral injection of vitamin B complex for prevention and therapy. In 25 cases observed at Watts and McPherson hospitals, Durham, N.C., *Candida albicans* was cultured from lesions. Local antibiotic therapy of sore throat was followed in 20 instances by black or brown hairy tongue, whitish exudate on mucous membranes, and acute inflammation. Persistent diarrhea developed in 3 other cases and bronchopulmonary moniliasis in 2.

J.A.M.A. 145:207-211, 1951.

Pediatrics

Calcium after Transfusion

After replacement transfusion of a newborn infant with 500 cc. of citrated blood, electrocardiograms show reduction of ionized serum calcium, even when ordinary tests give normal or high calcium values. To restore the loss, 1 gm. of calcium gluconate should be injected intravenously in not less than five minutes. With too rapid infusion, Dr. Robert A. Furman and associates at Western Reserve University, Cleveland, noted signs of hypercalcemia, including lengthened PR intervals, shortened systole, and inverted T waves.

J. Pediat. 38:45-50, 1951.

Hematology

Plasma Iron Levels

Adrenocortical steroids appear to regulate the level of plasma iron, decreasing the value during stress and maintaining normal content under everyday conditions. After adrenalectomy of rats, significant hypoferremia was observed by Dr. L. D. Hamilton and associates at the University of Utah, Salt Lake City. Decrease of iron was prevented by small daily doses of adrenocortical extract or cortisone but not by desoxycorticosterone acetate. Intact animals had acute hypoferremia after injection of adrenocorticotropic hormone, adrenocortical extract, cortisone, or desoxycorticosterone acetate.

Endocrinology 48:44-55, 1951.

Surgery

Cardiac Revascularization

The heart may be protected against occlusion of a major coronary artery by a recently modified two-stage operation. Arterial blood is directed into the coronary sinus by insertion of a free venous graft between the aorta and the sinus, but Dr. Ferdinand F. McAllister and associates limit arterial inflow by an aortic stoma 3.5 to 4 mm. in diameter. Initially, the coronary sinus is left open to create an aortic–right auricular fistula, but at the second stage the sinus is occluded to a diameter of 3 mm. At Western Reserve University, Cleveland, no deaths resulted in 47 primary and 13 secondary operations on dogs, and grafts remained patent in 65% of cases.

Ann. Surg. 133:153-165, 1951.

THE NAME TO DEPEND ON—

DeVILBISS

A comprehensive development and research program assures you of the most efficient in nebulizers and atomizers

The continuing DeVilbiss research program, now more comprehensive than ever before, is keeping pace with the latest findings in the field of aerosol therapy.

DeVilbiss' close cooperation, particularly with the pharmaceutical houses and research foundations, has resulted in the exactly *right* piece of equipment being always available for new techniques. There is an atomizer available for any new combination of pH, viscosity, or surface tension likely to be encountered.

DeVilbiss deserves your confidence. Over the years, no other manufacturer of similar equipment has worked so closely with research development to the end that the physician would have exactly the *right* type of equipment for the job at hand.

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Obstetrics

Procaine Diuresis in Toxemia of Pregnancy

Severe eclamptic oliguria or anuria persisting after the usual sedative and glucose therapy may be terminated by intravenous procaine. At the University of Oklahoma, 500 mg. of procaine is dissolved in 200 cc. of 5% glucose solution in water and injected in less than fifteen minutes. Dr. Milton J. Serwer and associates maintained diuresis for twenty-four hours with a single dose in 6 of 13 cases, but in others, two or more injections were given at intervals of six to twelve hours. Treatment was successful in 11 cases of eclampsia or preeclampsia but less effective for toxemia following nephritis. The drug apparently improved renal plasma flow, glomerular filtration, and tubular function by releasing arteriolar spasm.

J. Oklahoma M. A. 44:48-50, 1951.

"You know, I'm beginning to like them."

Hematology

ACTH for Hemolytic Anemia

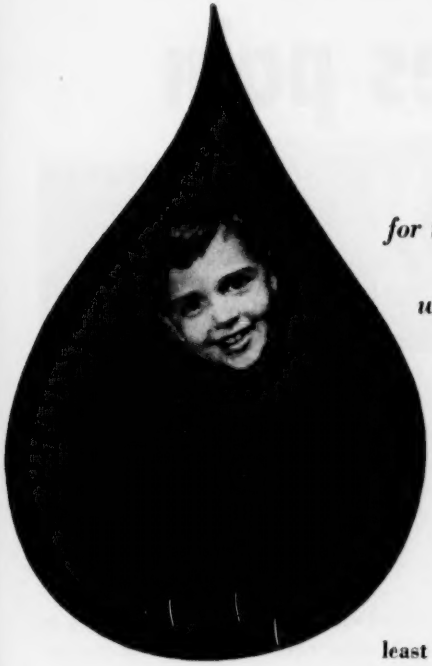
Administration of ACTH produces clearcut remissions in acquired hemolytic anemia with circulating hemagglutinins. Both idiopathic disease and conditions secondary to lymphosarcoma or lymphocytic leukemia are improved. Dosage varies; 20 mg. may be given every six or eight hours for short periods, and 20 mg. daily for maintenance. Dr. William Dameshek and associates of Tufts College and New England Center Hospital, Boston, believe that the hormone prevents hemolysis by reducing lymphoid tissue and thus depressing abnormal antibody formation. In addition, bone marrow may be stimulated.

New England J. Med. 244:117-127, 1951.

Military Medicine

Mental Standards Too High

Border-line mental deficients can serve satisfactorily in many essential but noncombatant Army jobs, suggest Col. Richard H. Eanes, M.C., U.S.A., Dr. John R. Egan, Old Saybrook, Conn., and Dr. Lionel Jackson, Palo Alto, Calif. A study of 2,054 men who were rejected for military service in World War II for psychiatric reasons, but who were later admitted and served as enlisted men, reveals that 1,630 performed useful duties. A large number of the 1,992,950 rejectees of 1942-45 were kept out of the Army because of educational or mental deficiency. Many of these probably would have served the war effort profitably in some capacity.



for infants and children, and adults

who prefer liquid iron medication

Feosol Elixir is eagerly accepted because it is so highly palatable. (When prescribed for infants and children, it should be given with water, fruit or vegetable juices.)

. . . is easily tolerated because it contains ferrous sulfate, the iron salt least likely to cause gastro-intestinal upset.

. . . is highly effective because ferrous sulfate is the most readily assimilated form of oral iron.

Each 2 fluid drams (2 teaspoonfuls) supplies 5 grains ferrous sulfate—the approximate equivalent of 1 Feosol tablet.

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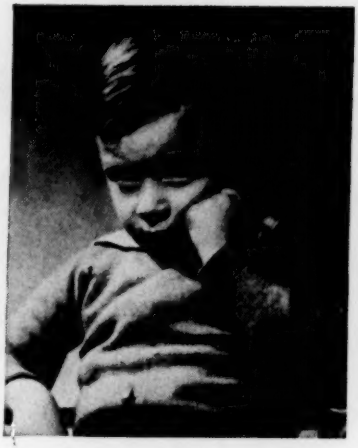
'Feosol' T.M. Reg. U.S. Pat. Off.

liquid iron

What does pain smell like, Doctor?



Doctor, you can take odors in your stride which your patients may associate with pain. Whether it's a small boy or his uncles or his aunts, odors linked with the practice of medicine are objectionable to patients.

Unconsciously laymen relate their discomfort to antiseptic and medication odors. In addition, your waiting rooms and treating rooms are subject to human odors.

It's so easy with Airkem to help extend friendliness and relaxation to your patients. So certain. And costs . . . *pennies*. Many doctors have found and used this secret of killing odors associated with pain. They know Airkem as the odor counteractant with the air freshening effect. It contains over 125 compounds as found in nature, including chlorophyll.

Odor-insure now, with Airkem portable fan units for constant protection . . . with handy Mist bomb for "emergency" odors. Call your Airkem supplier today—or write to Airkem, Inc., 241 East 44th Street, New York 17, N. Y.

airkem protects your patients from ODORS

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VERATRUM VIRIDE

PLUS OTHER ACTIVE INGREDIENTS

RAND

TRIPLE ACTION

Each tablet contains:

Veratrum Viridie	100 mg.
Mannitol Hexanitrate	½ gr.
Rutin	10 mg.
Phenobarbital	¼ gr.

VERUTAL Tablets (RAND) CONTAIN Veratrum VIRIDE plus other ACTIVE AGENTS. NO SINGLE DRUG IS SUFFICIENT FOR THE COMPLETE TREATMENT OF THIS COMPLEX DISEASE

for effective treatment of

HYPERTENSION

Clinical trial package and literature on request

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ugar-coated for dependable diuresis

Sugar coating is one reason for the superiority of Tablets MERCUHYDRIN with Ascorbic Acid.

Maximum absorption of mercury occurs in the stomach and duodenum—too high for enteric-coated tablets. But poorly tolerated oral mercurials *must be* enteric-coated. Only well-tolerated Tablets MERCUHYDRIN with Ascorbic Acid can be sugar-coated . . . give consistently greater diuresis with less mercury.

For dependable diuresis and minimal side effects prescribe

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with ascorbic acid

The simplest method of outpatient maintenance

dosage: One or two tablets daily, morning or evening, preferably after meals.

available: Bottles of 100 simple sugar-coated tablets each containing meralluride 60 mg. (equivalent to 19.5 mg. of mercury) and ascorbic acid 100 mg.

To secure the greatest efficacy and all the advantages of Tablets MERCUHYDRIN with Ascorbic Acid, prescribe a three-week initial supply . . . 25 to 50 tablets.

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Cardiovasology

Hypertension and Aortic Coarctation

High blood pressure above aortic coarctation is not entirely due to mechanical factors. The original cause may be simple blockade, but a humoral or other agent also operates, either by increasing peripheral resistance to blood flow or by preventing action of a compensatory device. Dr. Jerome S. Harris and associates at Duke Hospital, Durham, N.C., who observed effects of coarctation in animals and 4 human beings, conclude that renal ischemia is not influential. After surgical relief, previously depressed renal functions improved temporarily but in two to four months reverted to preoperative levels. However, the average postoperative brachial pressure continued to fall for several months.

Am. J. Med. 9:754-746. 1950.

Endocrinology

Cortisone and Tuberculosis

The death rate of rats with tuberculosis increases when the animals are given cortisone. Dr. Max Michael, Jr., and associates of Lawson Veterans Administration Hospital, Chamblee, Ga., and Emory University, Atlanta, report that in rats injected with virulent tubercle bacilli, the bacilli multiply more rapidly, produce more diffuse disease, and disseminate, if cortisone is also given. Forty-two days after injection of tubercle bacilli, all of 10 rats not given cortisone were still alive, but only 3 of 10 given the hormone.

Proc. Soc. Exper. Biol. & Med. 75:613-616, 1950.

Education

Plastic Skeleton for Students

A sculptured plastic skeleton especially designed for instructional use in hospitals and medical institutions will be on display at the British Industries Fair which opens this month. The fair, which coincides with Festival Year in Britain, promises to break all records both for attendance and for the number of exhibits. With the nation striving to build up dollar credits, British industries are making a major effort and will show many new gadgets and ingenious examples of British workmanship designed for world-wide sale. Engineering and hardware industries will exhibit in Birmingham. The other exhibits will be in London.

Personnel

Publicity Director for AHA

Dr. Malcolm T. MacEachern, formerly director of the American College of Surgeons, has assumed his new post as director of professional relations of the American Hospital Association.

for the pain that *wasn't* there following Pabalate therapy in arthritis.

Para-aminobenzoic acid 0.3 Gm. (5 gr.), plus sodium salicylate 0.3 Gm. (5 gr.) provide *higher* salicylate blood levels on *lower* salicylate dosage — with *more prolonged* clinical relief, and *reduced* side-effects.

P

Mycology

Antifungal Drug

Superficial fungous infections may be eliminated by a promising agent, Asterol Dihydrochloride, which has the formula 2-dimethylamino-6-(beta diethyl-amino-ethoxy)-benzothiazole. A 5% tincture, ointment, or dusting powder is applied. Dr. Conrad Stritzler and associates of Queens General Hospital, Jamaica, N.Y., report that the drug is especially effective for ringworm of the scalp due to *Microsporon audouini* or *M. lanosum*, for *Monilia* infections, and for tinea versicolor. Treatment is often helpful in cases of tinea corporis, tinea cruris, tinea pedis, erosio interdigitalis blastomycetica, and paronychia caused by *Candida albicans*. More than 500 patients have been treated with the compound.

Tr. New York Acad. Sc. 13:81-87, 1950.

Vital Statistics

Cancer Trend Reversed

More men than women die from cancer in the United States. In 1949 the disease killed 102,671 men and 101,980 women, reports Dr. Charles S. Cameron, New York City, director of the American Cancer Society. This is the first time since statistics on causes of death have been available that men have outnumbered women in cancer deaths. In 1900, only about 60 males compared to 100 women died of the disease. Change in trend is attributed to the fact that about a third of cancers in men are accessible to present means of diagnosis, whereas two-thirds of such growths in women are now detectable early.

Virology

Diagnosis of Mumps

Urinary diastase is greatly increased by mumps, even if swelling is confined to the submaxillary gland. Dr. Martin M. Nothman of Tufts College, Boston, used the Somogyi method in testing 27 affected children and 3 adults with the disease. Values rose the first or second day after initial swelling of the parotid gland, frequently above 1,000 units and in 1 case to 7,700 units, remaining high for five to six days or more. Diastase was within normal limits of 80 to 350 units in 10 cases of cervical adenitis, cellulitis of the jaw, and other obscure types of facial swelling.

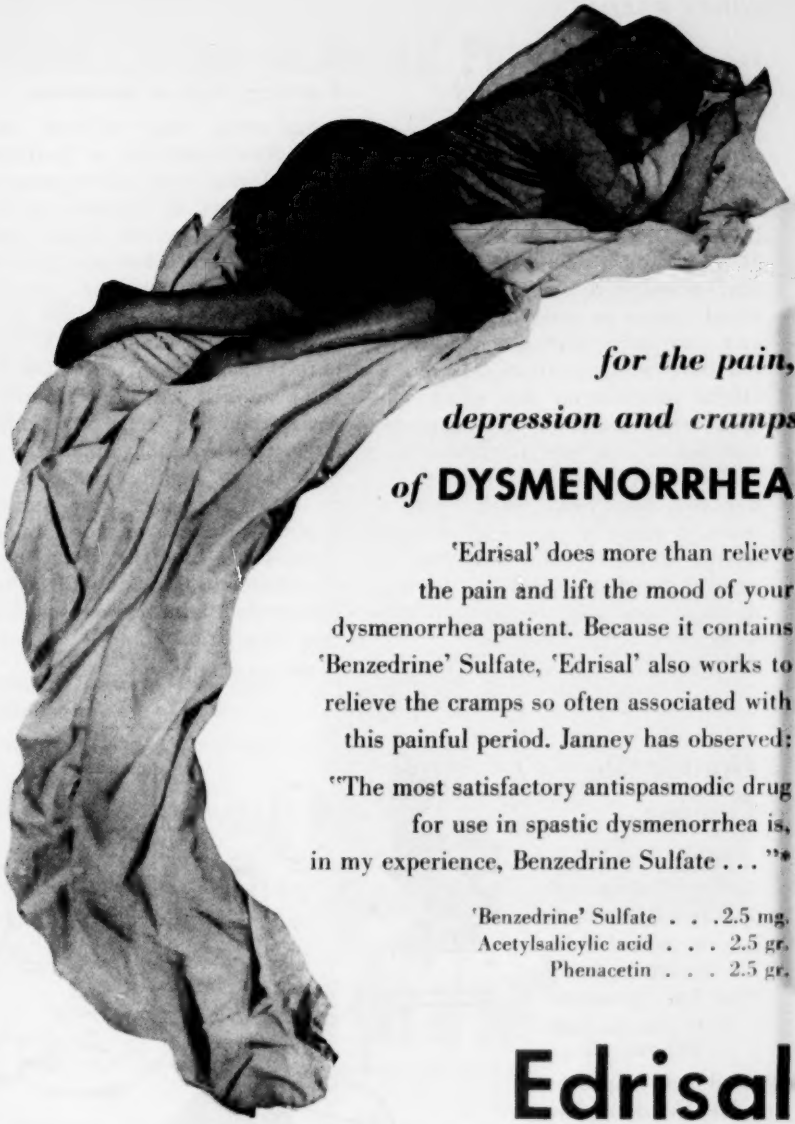
New England J. Med. 244:13-15, 1951.

Parasitology

Direct-acting Amebacide

A crystalline antibiotic, Fumagillin, recently isolated, appears to possess extremely potent amebacidal properties. Dr. Max C. McCowen and associates of Indianapolis report that Fumagillin inhibits *Endamoeba histolytica* in vitro and promptly clears rats and rabbits of cecal infections with this organism. Crude concentrations at dilutions of 1:4,096,000 inhibit the growth of *E. histolytica* in cultures. Since no associated bacterial growth influenced the growth of the ameba in the cultures employed, the action of Fumagillin is believed to be directly upon the ameba. The antibiotic has little antibacterial and antifungal and no antiviral activity against MM virus and influenza infections in mice.

Science 113:202-203, 1951.



for the pain,

depression and cramps

of **DYSMENORRHEA**

'Edrisal' does more than relieve the pain and lift the mood of your dysmenorrhea patient. Because it contains 'Benzedrine' Sulfate, 'Edrisal' also works to relieve the cramps so often associated with this painful period. Janney has observed:

"The most satisfactory antispasmodic drug for use in spastic dysmenorrhea is, in my experience, Benzedrine Sulfate . . . "*

'Benzedrine' Sulfate . . . 2.5 mg.
Acetylsalicylic acid . . . 2.5 gr.
Phenacetin . . . 2.5 gr.

Edrisal

Dosage: Two tablets, repeated every three hours, starting two days before menstruation. *Smith, Kline & French Laboratories • Philadelphia*

'Edrisal' and 'Benzedrine' T.M. Reg. U.S. Pat. Off.

*Janney, J.C., Medical Gynecology, ed. 2, Philadelphia, W.B. Saunders, 1950, p. 365.

Endocrinology

Maintenance of Pregnancy Without Corpus Luteum

Injections of progesterone may replace the natural secretion of corpus luteum in maintaining gestation if large doses are started early. Dr. M. C. Chang of Tufts College, Boston, transferred ova from inseminated donors to nonovulated rabbits and compared several methods of hormone administration. Macrocrystalline progesterone was given subcutaneously in doses of 25 mg. the day before insertion of one-day ova or five days before insertion of six-day ova, and doses were repeated once or twice at intervals of eight or ten days. Healthy offspring developed from 37 to 50% of the one-day implants when recipient rabbits were given the progesterone.

Endocrinology 48:17-24, 1951.

Biophysics

Warning Sign of Radiation

Lymphocytes with bilobed nuclei may draw attention to potentially harmful irradiation before gross overexposure. Drs. M. Ingram and S. W. Barnes first noted the double nuclei after doses well below accepted tolerance levels in personnel associated with the 130-inch cyclotron at the University of Rochester, N.Y. Smears were prepared with peroxidase stain and examined with the oil immersion lens. Abnormal cells were slightly larger than typical lymphocytes, with light blue, slightly clumped cytoplasm. When dogs were subjected to similar doses, 1 or more abnormal lymphocytes could be found in 37% of the blood samples obtained in the second week after exposure to cyclotron irradiation.

Science 113:32-34, 1951.

Doctor to Doctor

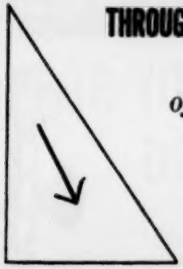
Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Apr. 15 winner is

D. F. Loewen, M.D.
Decatur, Ill.

Mail your caption to
The Cartoon Editor
Caption Contest
No. 2
MODERN MEDICINE
84 South 10th St.
Minneapolis 3, Minn.

"Well, for one thing, you might try writing fewer papers and seeing a few patients."

Patient Carries on Normal Pursuits



THROUGH GRATIFYING RELIEF

of the symptoms of urinary tract infection

Throughout the course of treatment for urinary disorders many patients continue their usual activities, thanks to analgesia produced with orally administered Pyridium.

Pyridium can be safely administered concomitantly with antibiotics, the sulfonamides, and other specific therapy.

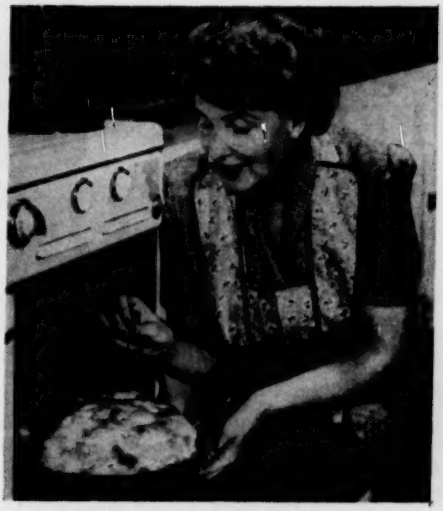
An analysis of symptomatic relief in 118 cases treated with Pyridium shows:*

Urinary frequency promptly relieved in 85% of cases.

Pain and burning decreased in 93% of cases.

*Kirwin, T. J., Lowsley, O. S., and Manning, J.: Effects of Pyridium in certain urogenital infections, *Am. J. Surg.* 62: 330-335, December 1943.

The complete story of Pyridium and its clinical uses is available on request.



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with the
NEW
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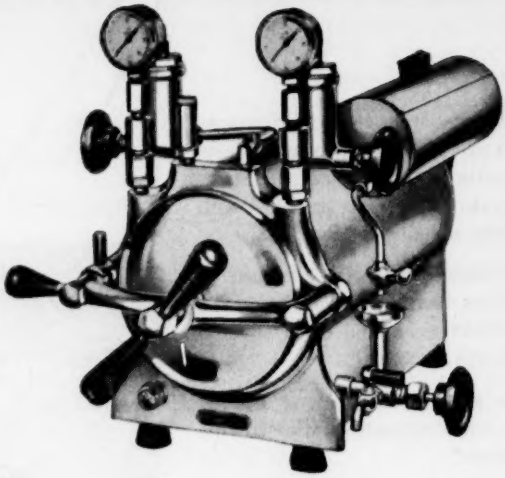

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Now, for the first time, Pelton . . . the pioneer in the field of small autoclave sterilization . . . presents the new FL-2. *It reduces minutes to seconds between consecutive sterilizing periods.*

As one load is sterilized, just remove it and begin sterilizing the next load in only a few seconds. No more waiting periods to bring up necessary temperature and pressure. No more wasted time. Simply turn valve to let steam, already generated and stored under pressure in outer chamber, pass into inner chamber.

The new, fast Pelton FL-2 is a scientifically-designed, precision-built autoclave. It uses the exact safe, fast principles of large hospital sterilizers: double boiler, air discharge valve, reservoir-condenser to convert steam to distilled water for re-use in boiler (no steam discharge in room), solid bronze safety door, positive door lock and safety catch, fully automatic.

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Rheumatic Diseases

Cortisone-like Reactions to Aspirin Therapy

A Cushing type of syndrome may develop during intensive salicylate therapy of acute rheumatic fever. Changes resembling effects of cortisone were observed by Dr. J. B. Cochran and associates at the University of Glasgow, Scotland, in a 13-year-old girl receiving 5 gm. of aspirin daily. The face became puffy on the second day, and within two weeks acne developed. Fasting blood sugar rose to 163 mg. per 100 cc., water and chloride were retained, and the nitrogen output greatly exceeded intake, but disturbance gradually subsided as dosage was reduced. On review of rheumatic case records, many similar reactions came to light.

Brit. M. J. 4694:1411-1413, 1950.

Hematology

Embolism from Cortisone

Fatal pulmonary embolism may result from treatment with cortisone or ACTH in doses of 100 mg. daily, particularly the latter. If infection or other predisposing factors develop, prolonged courses should be accompanied by anticoagulants. Among 175 persons receiving hormones, 11 had thromboembolic episodes, of whom 2 died. When blood was tested before, during, and after therapy by Dr. Stuart W. Cosgriff and associates of Columbia University and Presbyterian Hospital, New York City, venous clotting time was shortened in 8 of 10 cases and heparin-retarded venous clotting time in 4 of 6.

Am. J. Med. 9:752-756, 1950.

Hyperglycemia

Waning Effect of Insulin

If two identical doses of glucose are administered to a healthy person within a limited period, the second portion raises blood sugar less than the first. The initial hyperglycemia induces the islands of Langerhans to secrete more insulin, which hastens assimilation of the second dose. Dr. Michael Somogyi of the Jewish Hospital of St. Louis produced a mirror image of the glucose effect with insulin therapy. The first interval of insulin hypoglycemia probably incites the pituitary-adrenal mechanism to supply greater quantities of hormones antagonistic to insulin, so that later injections have less effect on blood sugar. However, the subsequent doses must be given during the hypoglycemic period. If blood sugar has been reduced for some time, insulin may be completely nullified.

Endocrinology 47:436-442, 1950.

Grants

$725,000 for Heart Studies

The Life Insurance Medical Research Fund has earmarked more than $725,000 for investigation of heart disease this year. Approximately $600,000 will go into 51 research awards, the remainder into 36 research fellowships.

World Health

New Member of WHO

Panama has recently become the seventy-fifth member of the World Health Organization.

Here is the patient who can benefit most from

VERILOID*

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The patient with moderate hypertension, who constitutes the great bulk of hypertensives seen clinically, is the one that can benefit most from Veriloid. In his management, dosage is more simple, and the clinical response is as a rule excellent.

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Current Books & Pamphlets

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Medicine

LIFE STRESS AND BODILY DISEASE. PROCEEDINGS OF THE ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, 1949. 1,135 pp., ill. Williams & Wilkins Co., Baltimore. $15

URGENT DIAGNOSIS WITHOUT LABORATORY AID: A DISCUSSION OF THE EXTERNAL SIGNS OF CONDITIONS WHICH THREATEN LIFE *by* Hans L. Baur. 107 pp. Charles C Thomas, Springfield, Ill. $2

DAS MAGEN-ZWÖLFFINGERDARMGESCHWÜR UND SEINE BEHANDLUNG *by* Martin Friedemann, *edited by* H. Schloessman. 218 pp., ill. Gustav Fischer, Jena. 16.50 M.

Radiology

ATLAS TYPISCHER RÖNTGENBILDER VOM NORMALEN MENSCHEN *by* Rudolf Grashey. 7th ed. 318 pp., ill. Urban & Schwarzenberg, Munich. 38 M.

RÖNTGENATLAS DER ERKRANKUNGEN DES MAGENDARMKANALS UND DER GALLENBLASE *by* Fritz Kuhlmann *and* Bernhard Rating. 212 pp., ill. Urban & Schwarzenberg, Munich. 20 DM.

THE RESULTS OF RADIUM AND X-RAY THERAPY IN MALIGNANT DISEASE: BEING THE THIRD STATISTICAL REPORT FROM THE RADIUM INSTITUTE, THE CHRISTIE HOSPITAL AND HOLT RADIUM INSTITUTE, MANCHESTER *compiled by* Ralston Paterson, Margaret Tod *and* Marion Russell. 167 pp. E. & S. Livingstone, Edinburgh. 10*s.* 6*d.*

PHYSICS IN MEDICAL RADIOLOGY *by* Sidney Russ *et al.* 2d ed. 296 pp., ill. Chapman & Hall, London. 25*s.*

Psychiatry

HYPNOSIS: THEORY, PRACTICE AND APPLICATION *by* Raphael H. Rhodes. 176 pp. Citadel Press, New York City. $3

Obstetrics & Gynecology

CYTOLOGY OF THE HUMAN VAGINA *by* Inés L. C. De Allende *and* Oscar Orías. 286 pp., ill. Paul B. Hoeber, New York City. $7.50

ENDOMETRIOSIS (ESTUDIO CLÍNICO) *by* César Fernández-Ruiz. 93 pp., ill. Editiones B Y P, Barcelona. 25*p.*

TOXAEMIAS OF PREGNANCY: HUMAN AND VETERINARY *edited by* John Hammond *et al.* 280 pp., ill. J. & A. Churchill, London. 21*s.*; Blakiston Co., Philadelphia. $4.50

TO PROSPECTIVE MOTHERS *by* William E. Hunter *and* Bernard H. Smith. 161 pp., ill. Bruce Humphries, Boston. $2.50

ATLAS OF MAHFOUZ'S OBSTETRIC AND GYNAECOLOGICAL MUSEUM *by* Naguib Pacha Mahfouz. 3 vols., 1,250 pp., ill. John Sherratt & Son, Altrincham, England. £9 9*s.*

Otolaryngology

EINFÜHRUNG IN DIE HALS-NASEN-OHREN-HEILKUNDE *by* Paul Falk. 2d ed. 175 pp., ill. Georg Thieme, Stuttgart. 19.80 M.

NOSES *by* Harold M. Holden. 252 pp., ill. World Publishing Co., Cleveland. $3.50

Pediatrics

HANDBOOK OF CHILD HEALTH *by* Austin Furniss. 280 pp. Sylviro Publications, London. 25*s.*

THE CARE OF CHILDREN FROM ONE TO FIVE *by* J. Gibbens. 4th ed. 204 pp. J. & A. Churchill, London. 5*s.*

PARENTS MUST BE FLEXIBLE: A PRACTICAL APPROACH TO THE CARE OF CHILDREN *by* Margaret Halmy. 127 pp., ill. Stephen Dave Press, New York City. $1.95

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Bacon, Melvin: The Journal of The Maine Medical Assn.—Vol. 38, July, 1947, No. 7—P. 167.

Stanley, Phyllis: The American Journal of Medical Technology—Vol. 6, No. 6, Nov., 1940 and Vol. 9, No. 1, Jan., 1943.

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...Spot Tests that require no special laboratory equipment, liquid reagents, or external sources of heat. One or two drops of the specimen to be tested are dropped upon a little of the powder and a color reaction occurs immediately if acetone or reducing sugar is present. False positive reactions do not occur. Because of the simple technique required, error resulting from faulty procedure is eliminated. Both tests are ideally suited for office use, laboratory, bedside, and "mass-testing." Millions of individual tests for urine sugar were carried out in the Armed Forces induction and separation centers, and in Diabetes Detection Drives.

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AN INTRODUCTION TO MEDICAL PHOTOGRAPHY *by* Josephine Hunt. 243 pp., ill. Staples Press, London. 30s.

THE PREPARATION OF PHOTOGRAPHIC PRINTS FOR MEDICAL PUBLICATION *by* Stanley J. McComb. 69 pp., ill. Charles C Thomas, Springfield, Ill. $2

Psychology

PSYCHOLOGY: PRINCIPLES AND APPLICATIONS *by* Marian East Madigan. 403 pp., ill. C. V. Mosby Co., St. Louis. $4.25

MODERN ABNORMAL PSYCHOLOGY: A SYMPOSIUM *edited by* William H. Mikesell. 880 pp., ill. Philosophical Library, New York City. $10

VALUES AND PERSONALITY: AN EXISTENTIAL PSYCHOLOGY OF CRISIS *by* Werner Wolff. 259 pp. Grune & Stratton, New York City. $4.75

Therapeutics

HANDBOOK OF ANTIBIOTICS *by* Abraham L. Baron. 303 pp., ill. Reinhold Publishing Corp., New York City. $6.50

Nursing

THE FACILITATION OF INTERSTATE MOVEMENT OF REGISTERED NURSES *by* Bernice E. Anderson. 186 pp. J. B. Lippincott Co., Philadelphia. $4

THE PRACTICE OF NURSING *by* Hilda M. Gration *and* D. L. Holland. Rev. ed. 456 pp., ill. Faber & Faber, London. 18s.

THE PERSON AS A NURSE (PROFESSIONAL ADJUSTMENTS) *by* Florence C. Kempf. 226 pp., ill. Macmillan Co., New York City. $3.25

THE NATURE AND DIRECTION OF PSYCHIATRIC NURSING *by* Theresa Grace Muller. 379 pp. J. B. Lippincott Co., Philadelphia. $5

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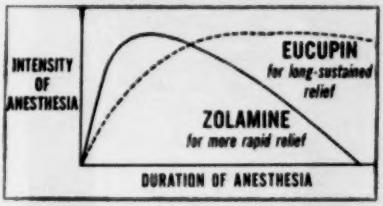

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The editors will pay $1 for each story published. No contributions will be returned. Send your experiences to the Patients I Have Met Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.

Lot of Bull

A woman came into my office complaining of general malaise. She said that she had been taking vitamin pills but, instead of making her feel better, they seemed to make her feel worse. I asked her what kind of pills she had been taking. She drew a bottle from her purse and handed it to me. The label proclaimed the contents to be plant vitamins and stated that the pills in each bottle were the equivalent to one-half ton of fertilizer.—O.A.A.

Reason Enough

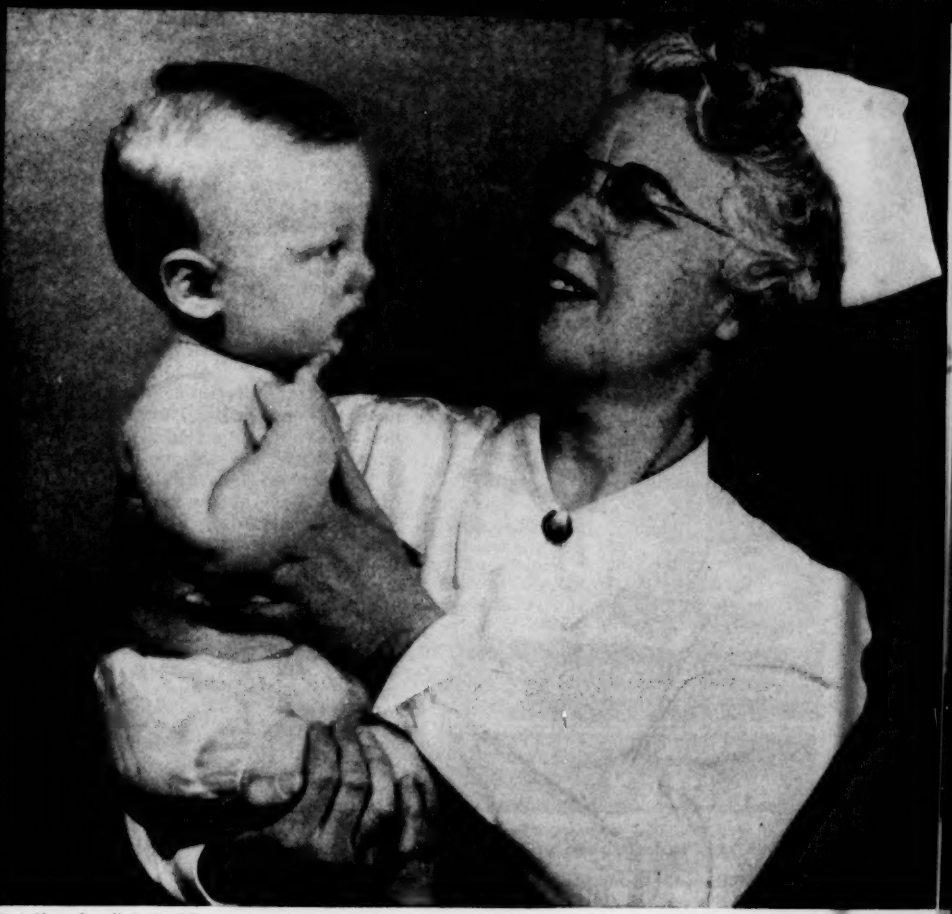
A young man of 21 was brought into the emergency room. His lung had been shot through with a rifle bullet.

"Who did this to you?" I asked.

"I did!" he replied.

"Why didn't you go to Korea instead?" I wanted to know.

"But doctor, I am married!"—A.E.



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FIRST IN RUBBER

Confusing

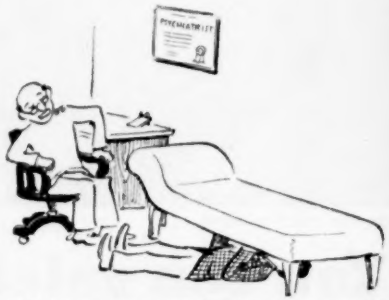
A young man, upon my advice, had a complete urinalysis.

I gave him a report of the number of white blood cells, bacteria, etc., which I found.

The young man immediately replied, "Hell, doc, wasn't there any urine in it at all?"—F.C.

Prepared

My doctor was in a hurry and his nurse was out the day I went into his office for a hip injection. An old maid schoolteacher was also in the office for the same shots and the doctor called us into his room at the same time. As I waited for her to go first she hesitated, blushed, and then raised her skirt. To my utter amazement I saw she had cut a big hole in her long knitted drawers about two inches wide and button hole stitched around it to enable the doctor to inject the needle.—F.W.S.



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One of the internists in our city has rather a large active family. Generally there is one member of the family in our office for orthopedic treatment of one kind or another. The other day one of the boys was in with a knee cartilage injury.

In all sincerity he said, "Wouldn't it be nice if you or your brother had a coronary occlusion so father could take care of you and repay you for all the treatment you have given our family."—F.M.B.

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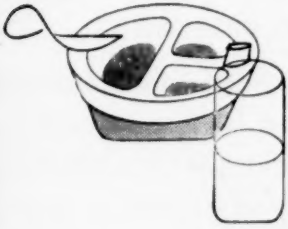

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Keefer, Chester S.: Am. J. Med. 7:216

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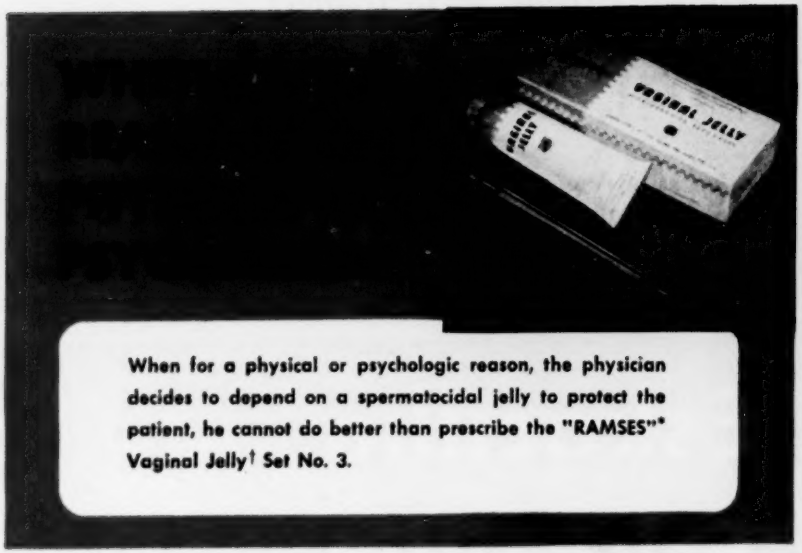

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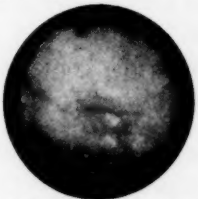

Photo taken ten hours after coitus. Occlusion still manifest.

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Also well suited for intranasal use in infants and children

*anual, P. C., Allergy of the Nose and Paranasal Sinuses. t. Louis, C. V. Mosby Co., 1936, p. 769.

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